JUN 9 - 1923

THE BOSTON Medical and Surgical JOURNAL

Owned and Published by THE MASSACHUSETTS MEDICAL SOCIETY

OFFICIAL ORGAN OF THE NEW ENGLAND SURGICAL SOCIETY, AND OF THE BOSTON SURGICAL SOCIETY, INC.

Per Annum, 25c per Copy
Vol. 188, No. 23

THURSDAY, JUNE 7, 1923

Published Weekly in Boston at 126 Massachusetts Avenue

CONTENTS

ORIGINAL ARTICLES

Factors Apparently Influencing the Development of Pellagra in Massachusetts. By *George Cheever Shattuck, M.D.*, Boston 889
Control of Communicable Diseases. By *A. J. McLaughlin, M.D.*, New York City 892
Acute Ascending Meningo-Myelitis, Possibly Resulting from Arsphenamine Therapy. By *Henry R. Viets, M.D.*, Boston 895
Mortamines or Faulty Food Factors. By *Francis Lowell Burnett, M.D.*, Boston 897
Diet during Pregnancy. By *Hilbert F. Day, M.D., F.A.C.S.*, Boston 904

THE MASSACHUSETTS MEDICAL SOCIETY

Program of the One Hundred and Forty-second Anniversary 912
Councilors, 1923-24 925
Annual Meeting of the Council 927

EDITORIALS

Fifty Years' Progress in Health Conservation 914
Consolidation of Two Medical Journals 915
Permits to Operate X-Ray Machines 915

For complete table of contents, see first text page.

THE NEXT ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY WILL BE HELD IN PITTSFIELD, TUESDAY AND WEDNESDAY, JUNE 12 AND 13, 1923.

For list of Officers of the Society for 1922-1923, see page xviii of the Advertising Section. For Officers of the District Medical Societies, see page xviii.

JUST READY

Morse, Wyman & Hill's Care of the Infant and Young Child

These authors have successfully met a demand on the part of physicians for a book that could be recommended to mothers to guide them and to tell them when and if their babies are ill. They have anticipated and answered every question which mothers may ask—answered them in detail, plainly, clearly, scientifically. The work is a sympathetic one, covering childhood and its ailments from birth to six years. There are chapters on preparing for baby's arrival, the bath, clothing, breast feeding, weaning, artificial feeding, home modification of milk, patent foods, indigestion, recipes, development, malnutrition, sleep, rest, exercise, fresh air, training, education, contagious diseases, bad habits, emergencies, and medical supplies. It is an excellent and safe guide to put into the hands of your mother patients.

By John Lovett Morse, M.D., Professor of Pediatrics, Emeritus, Edwin T. Wyman, M.D., Professor of Pediatrics, and Lewis Webb Hill, M.D., Assistant in Pediatrics, Harvard Medical School. 12mo of 271 pages, illustrated. Cloth, $1.75 net.

McKenzie on Exercise

JUST OUT—NEW (3rd) EDITION

Into this new and thoroughly revised edition Dr. McKenzie has inserted the experience gained with thousands of cases in England, Canada and the United States during the period of the war. The work is a full and detailed treatise on systematized exercise in the development of the normal body and in the correction of certain diseased conditions and functional disorders in which gymnastics and athletics have proved of value.

By R. Tait McKenzie, M.D., LL.D., Professor of Physical Education and Physical Therapy, and Director of the Department, University of Pennsylvania. Octavo of 601 pages, illustrated. Cloth, $5.00 net.

W. B. SAUNDERS COMPANY — Philadelphia and London

Entered at the Post-office at Boston as second-class matter.

AN INVITATION TO PHYSICIANS.

Physicians in good standing are cordially invited to visit the Battle Creek Sanitarium and Hospital at any time for observation and study, or for rest and treatment.

Special clinics for visiting physicians are conducted in connection with the Hospital, Dispensary and various laboratories.

Physicians in good standing are always welcome as guests, and accommodations for those who desire to make a prolonged stay are furnished at a moderate rate. No charge is made to physicians for regular medical examination or treatment. Special rates for treatment and medical attention are also granted dependent members of the physician's family.

An illustrated booklet telling of the Origin, Purposes and Methods of the institution, a copy of the current "MEDICAL BULLETIN," and announcements of clinics, will be sent free upon request.

THE BATTLE CREEK SANITARIUM

BATTLE CREEK Room 21 MICHIGAN

Harvard Auto Starting and Radio Types

STORAGE BATTERIES

Built to Cope with New England Ruggedness

ANY USER WILL TELL YOU THEIR SATISFACTION

	LIST	"SWAP-IN"
Ford and other small cars.....	$22.00	$16.50
Buick, Hudson, etc.....	30.00	22.50
Dodge and Franklin.....	36.00	27.00

Purchased Through Any Auto or Radio Dealer

AMERICAN STORAGE BATTERY CO.

326 Newbury Street, Boston, Mass.

Phone Back Bay 7672

Weed Hay Fever

THE Late Summer and Early Autumn Type of Hay Fever is caused by many of the common weeds, as–Ragweed, Russian Thistle, Sage Brush –the species differing widely according to locality. To assure specific treatment diagnostic tests are essential. To assure preseasonal treatment early diagnoses should be made,–otherwise the less desirable, though often beneficial, coseasonal treatment will be involved. List of late flowering weeds, showing regional distribution and time of pollination, sent on request.

GIANT RAGWEED Ambrosia trifida

RUSSIAN THISTLE Salsola pestifer

SAGE BRUSH Artemisia tridentata

The Arlington Chemical Company

Yonkers, New York

The Boston Medical and Surgical Journal

TABLE OF CONTENTS

June 7, 1923

ORIGINAL ARTICLES.

Factors Apparently Influencing the Development of Pellagra in Massachusetts. By *George Cheever Shattuck, M.D.*, Boston. 889
Control of Communicable Diseases. By *A. J. McLaughlin, M.D.*, New York City. 892
Acute Ascending Meningo-Myelitis, Possibly Resulting from Arsphenamine Therapy. By *Henry R. Viets, M.D.*, Boston. 895
Mortamines or Faulty Food Factors. By *Francis Lowell Burnett, M.D.*, Boston. 897
Diet during Pregnancy. By *Hilbert F. Day, M.D., F.A.C.S.*, Boston. 904

THE MASSACHUSETTS MEDICAL SOCIETY.

Program of the One Hundred and Forty-second Anniversary, June 12 and 13. 912

EDITORIALS.

Fifty Years' Progress in Health Conservation. 914
Consolidation of Two Medical Journals. 915
Permits to Operate X-Ray Machines. 915

MISCELLANY.

A Complimentary Dinner Arranged by the Cambridge Medical Improvement Society in Honor of Dr. Edmund H. Stevens. 915
Notes from the Boston Medical Library. 919
Annual Meeting of the New England Medical Federation of Examining and Licensing Boards. 920
The American Climatological and Clinical Association. 920
Increasing Virulence of Smallpox. 920
Fifty-two and One-half Millions Paid in Death Claims to Metropolitan Beneficiaries during 1922. 921
Further Facts on Body-Weight and Longevity. 922
Carbon Monoxide Poisoning. 923
Prevention of Simple Goiter. 923
Health Committee of the League of Nations. 923
Abolition of Cocaine. 924
Weight and Height as an Index of Nutrition. 924

News Items. 925

THE MASSACHUSETTS MEDICAL SOCIETY.

Councilors, 1923-24. 925
Annual Meeting of the Council. 927

CORRESPONDENCE.

Staff of Aesculapius *vs.* Caduceus. *Malcolm Storer*. 927
The Caduceus and the Green Cross. *Frank E. Rowe, M.D.* 927
A New Emblem. *George Edward Perkins*. 927
A Proposed Scheme for the Education of Nurses. *W. C. Rappleye*. 927

Two Automobile Routes to Pittsfield. 928

Society Meetings. 928

Original Articles.

FACTORS APPARENTLY INFLUENCING THE DEVELOPMENT OF PELLAGRA IN MASSACHUSETTS.*

BY GEORGE CHEEVER SHATTUCK, M.D., BOSTON.

[From the Service for Tropical Diseases at the Boston City Hospital.]

MATERIAL.

This inquiry is based on a study of 144 case histories in which a diagnosis of pellagra seemed fully justified. The histories were obtained from hospital records with one exception, namely, a case in the private practice of Dr. John F. Fennessey. The material has been divided into several groups in which similar factors of possible etiological importance occurred. The grouping follows:

			Cases.
Group	I	Chronic alcoholism	26
"	II	Eccentricity of diet	23
"	III	Pre-existing mental disease	13
"	IV	Debilitating influences (various)	19
"	V	Chronic wasting diseases	5
			86

*A paper dealing with the distribution of pellagra in Massachusetts and with its relationship to age, sex and occupation appeared in the BOSTON MEDICAL AND SURGICAL JOURNAL of Jan. 25, 1923.

In the histories of the remaining 58 cases nothing noteworthy was discovered. However, it should be stated that in many cases little history was obtained, that histories had not been taken with a view to throwing light on all the points in question, and that in a large number of cases it was impossible to ascertain even with approximate accuracy the time of onset of the early symptoms of pellagra.

For example, histories of repeated periods of ill-health dating back sometimes for 10 or 11 years, for which the cause was not clear, would be followed by definite signs of pellagra. In such cases the initial symptoms might either have been early manifestations of pellagra or have been due to some other cause. If due to another cause, the debilitated condition resulting therefrom might conceivably have had a direct or indirect influence favoring the subsequent development of pellagra. On account of this uncertainty such cases were not included in the classified groups.

The completeness of the data in groups II, III and IV is much impaired by these exclusions but it is believed that the error is on the negative side and that the grouped cases, therefore, have an enhanced value.

GROUP I—CHRONIC ALCOHOLISM.

The European literature on pellagra during the period when the Zeist theory of the cause of

pellagra was generally accepted, describes numerous cases of apparently typical pellagra under the name of pseudo-pellagra, because, in these cases, no history of the consumption of maize was obtained. Among such cases chronic alcoholism was not infrequently believed to be a factor in the causation of the condition. When read in the light of present knowledge of pellagra, the case histories seem fully to justify the diagnosis of pellagra and to point to chronic alcoholism as an occasional factor in the causation of pellagra and yet this fact seems not to have received general recognition.

As further evidence bearing on the question, an article by Olózaga* may be cited. He studied a disease known in Colombia as chichism which was believed to result from the abuse of a cheap native beverage called chicha. Chicha was made from maize and was consumed by the poorer class of laborers in certain districts. It is stated that the City of Medellin stamped out the disease by raising the license for the sale of chicha to a prohibitive figure.

Olózaga believes that chichism is in reality pellagra and he points out that the laborer, after spending his money for chicha had little left with which to buy food. Chichism as described does not seem to differ in any way from pellagra. Moreover, the development of pellagra, under these circumstances, and its subsequent disappearance, can easily be explained on the basis of the protein deficiency theory of the cause of pellagra.

In Boston during the past year most of the cases of pellagra which I have seen were in victims of chronic alcoholism and the question arose as to whether the alcoholism was an important factor in the etiology of these cases.

Of the above mentioned 144 cases of pellagra, 52 were men and 92 were women. Although in many instances the past history was scanty and of doubtful value, good evidence of abuse of alcohol was recorded in 26 of the cases. Of theses, 18 were males and 8 were females. These figures correspond to 18% for alcoholism in the whole number, to 34.6% of the 52 males, and to 8.7% of the 92 females. It is worthy of note that two additional cases of alcoholism in men at the Boston City Hospital showed slight dermatitis and pigmentation limited to the backs of the hands. In these cases pellagra was considered as possible, but the signs were not thought sufficiently pronounced to warrant a positive diagnosis. If indeed chronic alcoholism favors the development of pellagra, it might conceivably do so by lowering the resistance of the patient in such a way as to make him vulnerable to attack by some other toxic or infectious agent, by upsetting his appetite and digestion and preventing the assimilation of needed food factors, or by causing him to subsist on an ill-balanced or insufficient diet on account of poverty resulting from his habits. On the basis of the evidence given above, the conclusion seems warranted that chronic alcoholism may be a pre-disposing cause of pellagra in various different countries, and that it has some etiological importance in a considerable proportion of cases in Massachusetts.

*Repertorio de Medicina y Cirugía, Bogotá, Dec., 1920, 12, No. 3. Reviewed in Jour. A. M. A., Vol. 76, No. 26, p. 1050, 1921.

GROUP II—ECCENTRICITY OF DIET.

Those who believe pellagra is caused by deficiency of certain amino-acids derived mainly from animal protein have attributed some cases of pellagra to eccentric dietary habits. Such eccentricity was recorded in the histories of 23 of our cases as occurring at a period which apparently antedated the first symptoms of pellagra. To this group, which corresponds to 15.9% of the total, might perhaps be added four cases of individuals living alone, because persons who prepare and eat their meals alone almost inevitably become careless and indifferent about their food.

Almost all the cases of pellagra sooner or later refused food or restricted their diet in important directions, but these late developing peculiarities have not been included. Group II, however, is large enough to attract attention.

GROUP III—MENTAL DISEASES.

This group numbering only 13 cases, or 9% of the total, is surprisingly small. Pellagra has been notoriously common in asylums for the insane and its appearance there has often been attributed to improper feeding of the inmates. Following an official investigation of pellagra, which was carried out several years ago in the asylums of Massachusetts, the conclusion was reached that the food supplied to the patients was not at fault.

Study of the 144 case histories shows that symptoms of mental derangement developed sooner or later in nearly every case and that in many cases a psychosis resembling the toxic psychoses of pellagra appeared before the skin lesions of pellagra had been observed. It frequently happened that pellagra was not at first suspected as the cause of mental derangement, but that after appearance of the skin lesions the psychosis was attributed to pellagra and the original diagnosis discarded. This points to the fact that a psychosis of the toxic type which is in fact due to pellagra may easily escape recognition in the absence of skin lesions, and that such mistakes can easily occur during the winter when skin lesions of pellagra tend to disappear. Consequently, only such cases were included in Group III as had been diagnosed as having chronic mental derangement of some well known type such as congenital mental defect or dementia praecox.

The dietary vagaries of the insane are proverbially common and others have attributed significance to them as possible causes of pellagra.

GROUP IV—DEBILITATING INFLUENCES.

This group contains 16 cases of unclassified debilitating influences of various and widely different kinds and includes, in addition, three cases in which the signs of pellagra appeared shortly after child-birth. Added together, the cases in the group total 19, or 13.1%, of the total number.

Debilitating influences, again, have been regarded by others as predisposing to pellagra.

GROUP V—CHRONIC WASTING DISEASES.

Although autopsies on cases of pellagra may show evidence of a variety of other diseases, it is often difficult or impossible to tell whether the other diseases preceded the pellagra or appeared later. Thus, it is impossible from available data to determine whether the pulmonary tuberculosis, of which there were three cases, was a sequel of the pellagra or preceded the pellagra. If the tuberculous process antedated the pellagra it might conceivably have had some influence in producing it through disturbance of nutrition or otherwise.

To the same group belongs a case of cancer of the stomach and another of cancer of the rectum. Similar reasoning may be applied to these cases.

To throw further light on the question of a possible etiological relationship, the records of 500 cases of cancer of the stomach were examined for evidences of pellagra. One patient was stated to have had symmetrical dermatitis, pigmentation, and scaling of the backs of the hands. Although the possibility of pellagra was discussed in the record, the condition was attributed to arsenic on the ground that the patient, before admission to the hospital, had taken an unknown medicine which might have contained arsenic.

I incline strongly to the view that the case was one of pellagra complicating cancer. No other case among the 500, however, showed anything that would have justified a diagnosis of pellagra. Clearly, then, cancer of the stomach is not often associated with pellagra in Massachusetts and their concurrence in the cases cited may have been purely accidental. Pulmonary tuberculosis may be combined with pellagra, but the facts in hand do not justify any conclusion regarding a possible relationship.

SUMMARY.

Possible etiological factors have been analyzed so far as available data would permit in 144 cases of pellagra.

The most noteworthy fact adduced is that in more than a third of the 52 cases in males there was evidence of chronic alcoholism. Among the 92 females, 8.7% were alcoholics.

The conclusion seems justified that chronic alcoholism had some etiological significance in these cases. This conclusion is strengthened by evidence derived from other countries in which, however, such a relationship seems not, up to the present time, to have been generally recognized.

Deficiency of diet or of assimilation affords a simple explanation of the association of pellagra with chronic alcoholism, but this may not be the true explanation.

As regards mental diseases and pellagra, the evidence seems to show that in the great majority of cases in Massachusetts the mental disorder is a manifestation of pellagra, but that, in a small proportion of cases of pellagra, chronic mental disease preceded the appearance of pellagra.

In other groups of cases, dietary eccentricity or debilitating influences of great variety may have prepared the way for pellagra.

Chronic pulmonary tuberculosis and cancer of the digestive tract were associated with pellagra in only a few instances. A study of the records of 500 cases of gastric cancer shows that the combination of gastric cancer and pellagra is rare in Massachussetts and of little significance.

In the three cases of pulmonary tuberculosis, the association might have been accidental, the tuberculosis might have preceded the pellagra and prepared the way for it, or the tuberculosis might have appeared subsequently as a terminal process. No conclusion can be drawn from the facts in hand.

ACKNOWLEDGMENTS.

Grateful acknowledgments are offered to the institutions listed below for permission to examine their case records and to publish the data obtained. The institutions starred in the list provided data on cancer as well as on pellagra.

Thanks are offered to Dr. John F. Fennessey for kind permission to include a case of pellagra from his private practice.

*Boston City Hospital.
Boston Psychopathic Hospital.
Boston State Hospital.
Carney Hospital.
Danvers State Hospital.
Foxborough State Hospital.
*Huntington Memorial Hospital.
Long Island Hospital.
*Massachusetts General Hospital.
Massachusetts State School for the Feeble-Minded.
Northampton State Hospital.
*Peter Bent Brigham Hospital.
Taunton State Hospital.
Tewksbury State Infirmary.
Westborough State Hospital.
Worcester State Hospital.
Wrentham State School.

CONTROL OF COMMUNICABLE DISEASES.*

BY A. J. MC LAUGHLIN, M.D., NEW YORK CITY,

Surgeon, United States Public Health Service.

The great outstanding fact in practical disease prevention today is that purely official machinery is inadequate in itself for the task of eradicating disease. In order to understand why official machinery unsupported cannot cope with this problem, it is necessary to survey the development of our knowledge of preventive medicine.

The natural instinct for self-preservation caused man to make efforts to prevent disease in very early times. Inoculation for smallpox was practised in India very early and by 300 B. C. had spread to China. The Mosaic law contained many excellent precepts for preventing disease.

The Romans were great administrators and their public works in providing water through great aqueducts are monuments today of their sanitary engineering skill. After the fall of Rome, anarchy prevailed and the old primitive and savage ideas of the cause of disease held sway down through the medieval period. The idea that disease was caused by evil spirits or displeasure of the dead was varied in medieval times by the theory that disease was an exhibition of the wrath of God. These theories of the supernatural cause of disease have come down almost to our own times. Martin Luther said disease was the work of demons, and Cotton Mather called it the scourge of God for the sins of the world.

A fascinating theory which has come down through the ages is that disease is caused by movements or juxtaposition of heavenly bodies, or by terrestrial disturbances. Noah Webster compiled a list of epidemics and coupled them with earthquakes or volcanic eruptions.

The theory of pestilential air dates back to the father of medicine, Hippocrates, and has come down to our own day. The theorists were not agreed, however, upon what caused the pestilential air, demons, wrath of God, astral phenomena or terrestrial disturbances. Linked with the theories of pestilential air, miasma and filth was the age-old fallacy of spontaneous generation, and Pasteur destroyed both false doctrines at the same time.

In the 17th century, Robert Boyle, the great chemist, said that man who found out all about fermentation would solve the riddle of disease. Two hundred years later Pasteur fulfilled Boyle's prophecy. In clearing up the mysteries of fermentation, Pasteur demonstrated the specificity of germs, the existence of toxins and the possibilities of vaccines. Bacteriology developed rapidly upon the sound foundation laid down by Pasteur and the germ cause of disease after disease was demonstrated during the closing decades of the 19th century.

It was natural that high hopes for the elimination of disease should be entertained when the germ cause was known, and the germs easily destroyed. All that was necessary was to isolate all cases and disinfect their body discharges and anything which had become contaminated therewith. The development of epidemiology explains why these hopes were not realized. The epidemiologist taught us the significance of the "carrier" and the mild atypical or "missed" case. These hopes were sound enough for they were based upon the isolation of all cases of disease and the disinfection of the patients' discharges at the bedside.

These measures could be enforced by the police powers of boards of health and it seemed that vigorous fearless exercise of this official function would "stamp out" epidemics and eradicate disease. This policy failed and the hopes were not realized because all cases could not be brought under control. It was demonstrated that carriers and mild cases entirely uncontrolled were in many diseases as numerous or even more numerous than the easily recognizable cases with typical symptoms. There was a tendency at first to blame the failure to control all cases upon the doctors who did not report all their cases, and reported many of them after the greatest damage had been done.

The facts disclosed that a large percentage and, in some diseases, a majority, of the cases were untreated by doctors. The cases either had no symptoms (carriers) or they were so mild that a doctor was not called.

It was also shown that doctors are commonly called late, after the patient has been exposing others to infection for several days.

These basic facts explain the limitations of strictly official activity in attempting to control communicable diseases. It was obvious that a new alignment of public health forces was necessary, including an enlistment of private citizens in the public health army. If a large percentage of cases, including mild cases and carriers, do not come under official control, nor the private control of doctors, we can only secure control of these through the participation of the private citizen in the work of suppressing disease.

Official action in securing safe water supplies, proper sewage disposal and pasteurization of milk has accomplished spectacular results in typhoid fever and allied diseases.

In the communicable diseases of childhood the police powers of quarantine isolation and disinfection have been utilized to good advantage. They have prevented many cases of disease, but they have failed to eradicate disease. The exercise of these powers is necessary, they should be continued, but health officers must secure support for their official activity from private

*Address delivered at the annual meeting of the Boston Health League, Feb. 14, 1923.

voluntary unofficial agencies and private citizens, if the elimination of many diseases or even further significant reduction of these diseases is to be achieved. Our failure to adequately control or eradicate many communicable diseases is not due to lack of knowledge, but to our inability to secure the application of the knowledge we already possess.

We have sufficient knowledge and possess every necessary weapon to combat and eradicate completely typhoid fever, diphtheria, smallpox, syphilis, malaria and other diseases. We cannot secure the application of this knowledge by official activity unsupported by private agencies and private citizens.

We freely confess that we need more scientific knowledge concerning the cause and modes of transmission of many diseases, but it is patent to everybody that what we need more is a general application by the people of the knowledge we already possess. There is a group of communicable diseases which always arouses public interest and in which there is no difficulty in securing prompt and effective application of our scientific knowledge.

The prevention of this group constitutes one of the major functions of our Federal Public Health Service. These diseases are more or less exotic and inspire terror in the lay mind out of all proportion to their danger. In this group are Asiatic cholera, plague, yellow fever, typhus fever and leprosy.

We have sufficient knowledge to control all of these diseases and the terror they inspire insures the support of public opinion and a feverish activity on the part of lay officials and private citizens to effect their suppression. This does not mean that there is no need for further research in these diseases, but simply means that our present knowledge, backed by public opinion, makes possible what may be termed adequate control.

With the diseases which are endemic in the United States, there is quite a different story. They are of common everyday occurrence, inspire no terror, and public opinion is apathetic toward measures for their suppression.

The time has come for health officers to be statesmen rather than policemen. Our people for so many decades regarded the work of our health departments as an exhibition of police power. They were so accustomed to the mandatory orders to do this or not to do that, that they still confine their co-operation to doing enough of what they are told to do, to keep them out of court. They are prone to look upon the advice given today by our up-to-date health departments as something unnecessary, because it carries with it no threat of fine or imprisonment.

To secure administration of vaccines we must have something besides compulsory laws. The wide use of these preventive inoculations can only be secured by the voluntary act of the head of the family. Our failure to acquire control of mild cases and carriers, and our failure to secure wide use of prophylactics and vaccines are questions which require an answer, and the answer is obvious. We find in these questions the utter futility of unsupported official action. We know that the answer involves the habits of the individual, and the habits of the family group, so that we have reached a point where we know what must be done; but this is something we cannot order done,—something that the citizen can be requested to do, but cannot be compelled to do.

Imagine the possibilities in prevention of disease, if parents voluntarily would isolate children and report to the health department, pending diagnosis, in all cases with indefinite symptoms presenting a sudden deviation from normal health. Imagine further the effect upon death rates if every individual would practice personal hygiene to the extent that his hands were always clean when handling food, and that the discharges from mouth and nose were always properly controlled.

How can we create in the individual citizen, the head of a family, the desire to do his part in personal and community hygiene? How can we secure the actual participation of that family in a joint voluntary effort for the protection of the community? The answer seems obvious —Education. Yet the problem of educating all individuals in personal, family, and community hygiene is of such magnitude that it appalls even the most optimistic.

The schools furnish the most hopeful avenue of approach in educating the individual in personal hygiene and in community obligations. Organization of the children themselves into health leagues is in many communities the only effective means of reaching the parents and changing the unhygienic habits of the home. In other communities the parent-teachers' associations will be found a most potent factor.

The utilization of the schools is complicated by the fact that there are two jurisdictions and sometimes three involved: the board of education, the board of health, and sometimes a parochial school system.

This complication is more apparent than real, and fades away before the health officer who is a real leader. It is really immaterial whether the work to be done comes under the health board or the school board; the vital, necessary thing is to have it done.

This teaching of personal hygiene must be begun in the early grades because of the fact that 90 per cent. of the children do not enter high school, and a very large percentage do not get beyond the sixth grade.

To acquire control over carriers and mild cases in addition to the education of individuals in personal and family hygiene, it will be necessary to develop a strong community spirit. This is easier in small towns, where it is quite

possible, if the health officer has the qualification for leadership, to secure the voluntary cooperation of a great majority of the householders.

The problem in a large city is much more complex and difficult. To secure similar results in large cities requires decentralization of the health department into health units or health centers which can be used to develop, in health matters, a community spirit among the majority of the citizens in the area served by the health center.

Careful study must be made in fixing the boundaries of districts served by health centers, in order to secure some degree of homogeneity and cohesion among the individual families served. The limits of the health center's activity need not coincide with those of ward or precinct, but should be made to include a unit not too large, whose population is of such a character that it can be bound together in a community spirit. Many excellent societies exist in connection with churches and church work. Uncoördinated, their activity does not result in community spirit, but in a disintegration of community spirit into little church groups. Their work can be coördinated by a committee with representations of each church group and, under the leadership of the health officer, their combined support can be secured for community health problems.

The surest and most effective way of developing community spirit and securing the participation in disease prevention by large numbers of citizens is to utilize the many splendid voluntary unofficial associations or societies already engaged in health work and anxious to help.

The greatest single defect in municipal health organization today is the lack of machinery for coördinating and utilizing voluntary and unofficial agencies in an official plan to insure team work. There has not been too much activity by voluntary and unofficial organizations, but there has been too little utilization and coördination of these agencies in a comprehensive plan having for its object the prevention of waste effort, duplication, and conflict. To secure coordination of these agencies some form of central advisory committee is essential, and in the large cities the health center, with, perhaps a subcommittee, will be found to be the most useful instrument for decentralizing and applying the principles of team work locally.

Municipal health organization must, therefore, as its primary function, devise means of utilizing all existing voluntary unofficial agencies as an integral part of the official health machine, and recommend the changes in health department organization which are necessary to effect this result.

The term "health center" has been very loosely used as a name for everything from a milk station to a miniature health department. A real health center should be a complete health department. In a small city the health department should be the health center. In larger cities health centers should be established for the purpose of decentralizing official health activity and linking with it every agency carrying on public health activities within the area. It should also serve as a common headquarters in order to effect the closest coöperation with workers for sociologic and economic betterment.

To operate successfully, the health center must have official status, and in addition to the diagnostic and dispensary facilities, the public health nurses and other official personnel, it should house the liaison officers, when necessary or advisable, from unofficial or voluntary agencies.

Unofficial voluntary associations are often the result of spontaneous popular movements for the promotion of health. They give the health department the opportunity of reaching the people through groups rather than by the laborious procedure of teaching individuals.

All new expansions in public health are best promoted in their incipiency, by unofficial agencies. After the new departure has a demonstrated value, official funds can be secured and the work taken over by the official health department.

Unofficial or voluntary health organizations have been always the pioneers in new health movements. They have initiated many procedures which should have been started by the official health department, and they have operated clinics, public health nursing service and educational machinery for years before the official health officer could obtain funds for such a project.

In a somewhat long and varied experience, I have never known an unofficial voluntary health agency which was unwilling to accept the supervision of the duly constituted official health authority. I have always found the unofficial health agencies willing to turn over to the official health department any health activity which might be termed official, whenever the health officer was able and willing to assume the responsibility.

The evolution of public health work from the prevention of contagious diseases to the prevention of all disease, and further from the negative prevention of disease to the positive appeal for health, has resulted in a very complex health organization. It has brought into the public health field besides the doctor and the sanitary engineer, the public health nurse, the teacher of physical education, the social worker, and other health workers. This expansion and this complexity make it doubly essential that the unofficial agencies be coördinated and utilized by the official health departments. Health departments would find it impossible to secure official funds to do the work now done by unofficial agencies. It is also a debatable question as to

how much of this work should be taken over, and how much might better be left to the private agencies. The important thing is to have the work continued under official supervision, dovetailed into the official program, parts of it to be taken over by the official health department when expedient and when official funds are available.

The American Public Health Association, the great representative public health organization of the country, has done much to bring about closer relation between official and unofficial health workers. Its membership includes health officers, federal, state and local, and every type of health worker—doctors, sanitary engineers, bacteriologists and public health nurses, from both official and unofficial organizations.

The most hopeful feature of public health development of recent years has been the better understanding between official and unofficial health agencies and the spirit of helpfulness displayed by both in their common crusade for better health.

There is now a National Health Council, which combines representatives of all the great unofficial national health agencies, with representatives of the United States Public Health Service and of the State Departments of Health. There are also in many states, State Public Health Associations, which offer opportunity for team work between official and unofficial activity.

Even more important in our large cities, there is a constantly growing number of health leagues, health centers, or other organizations which, under official supervision, secure the coordinated effort for health of all the official and unofficial organizations in the area.

Most complete and comprehensive in its organization is the Boston Health League. It seems like the fulfillment of a dream which ten years ago did not seem possible. It is inspiring to see all the unofficial agencies in the area united in one common effort under the duly constituted official authority. It is no less inspiring to see a Health Commissioner who is not a policeman but a statesman eager to utilize the help of the unofficial agencies and to furnish the necessary leadership for keeping them together.

ACUTE ASCENDING MENINGO-MYELITIS, POSSIBLY RESULTING FROM ARSPHENAMINE THERAPY.

BY HENRY R. VIETS, M.D., BOSTON,

Assistant Neurologist, Massachusetts General Hospital.

ACUTE infectious or toxic conditions of the spinal cord are rare diseases, especially if they are of the so-called "ascending type." Since the early reports of Landry, who described an acute ascending lesion of the spinal cord in 1859,[1] relatively few reports of similar conditions have appeared in the literature. There have been great difficulties in the differential diagnosis of these ascending palsies, some falling into the class of acute poliomyelitis, with the main brunt of the attack borne by the anterior horn cells; some with an ascending or spreading myelitis, either toxic or a low grade of infection, with motor, sensory, and sphincter loss, and a third group of presumably multiple neuritis cases, into which class Landry's paralysis is supposed to fall. Cases in the first two groups are apparently much more common than in the third group, and there has been much doubt expressed in regard to the possibility of there being a multiple neuritis group at all. Cases in the first two groups, however, are rare, and it would seem worth while to report all cases of this unusual character, especially if coincident spinal fluid findings are available. The case reported here is of such a character, but, unfortunately, is lacking in post-mortem confirmation. The history and examination, nevertheless, seem to be sufficiently detailed to establish the diagnosis without question, although the etiology is doubtful.

CASE REPORT.

A man of 38 years was first seen on November 10, 1922, the fourth day of his illness, with a chief complaint of paralysis of the legs. His present illness had begun with a feeling of malaise, sore throat, and muscular weakness, especially in the legs. He had worked strenuously that day as an outdoor telephone employee, and had not begun to feel sick until late in the afternoon. The third day, when seen in the morning by his local physician, he was in bed, and had limited motion of his legs, but no absolute paralysis. The temperature was 100. At that time he was clear mentally, and there was no involvement of his arms. The knee-jerks were exaggerated. By early afternoon the paralysis of the legs was complete, with a lack of sensation up to the edge of the ribs. The arms were moved with some difficulty, but he was breathing with his chest muscles. The patient was perfectly conscious, and talked normally, except for shortness of breath.

I saw him about 4.30 in the afternoon. My examination was as follows:

Patient was lying in bed with complete flaccid paralysis of both arms and legs. Breathing was difficult and shallow. His face was rather anxious. He appeared perfectly clear mentally, but found difficulty in talking, on account of the shortness of breath. No cranial nerve palsies were made out. The fundi were not examined. The pupils were pin-point and equal, probably due to morphia, which he had received that morning. There was no reaction to either light or accommodation. No nystagmus was found, and all the extraocular movements were

normal. There was no ptosis or diplopia. Hearing apparently was normal. Facial nerves were equal. Both the motor and the sensory components of the fifth nerve were equal. Tongue was protruded in the midline without tremor, and was clean. There seemed to be some bilateral weakness of the throat muscles. All the intercostal muscles were paralyzed and the patient was breathing with his diaphragm, except for the use of a few neck and shoulder muscles. Anesthesia was absolute up to the fourth cervical segment. There was incontinence of both urine and feces. No movement of the arms was possible. The elbow and wrist reflexes were not obtained. Over a bilateral deltoid area he could feel the prick of a knife. The heart was not enlarged, and there were no murmurs. The pulse was 90, good volume and tension. Abdominal reflexes were not obtained. Knee jerks and ankle jerks were not obtained, and there was no clonus. There was no response to plantar stimulation. The paralysis of the legs was complete.

Lumbar puncture was done as soon as possible, but only a few minutes before death. The cerebrospinal fluid was slightly cloudy, colorless, and on standing showed a fine clot. The pressure was over 300 mm. Pulsations, synchronous with the pulse and respiration, were both present. The pressure dropped to 250 mm. after removing 5 c.c. of fluid, to 210 mm. after removing 10 c.c., and to 150 mm. after removing 20 c.c. There were 675 cells per c.c., about two-thirds being polymorphonuclear cells; the other one-third were lymphocytes. These were examined by a stained smear, as well as in the unstained condition. No red blood corpuscles were seen. The spinal fluid Wassermann was negative. The gold sol reaction was 1222344322. Protein was about three times normal by the alcohol test and twice normal by the ammonium sulphate test. There were 250 mg. of protein per 100 c.c. of fluid. The cultures were negative in 24 hours, and the smears showed no organisms. The patient died about 30 minutes after lumbar puncture, having been clear mentally up to within a minute or two of the end. He died of respiratory paralysis.

The patient's past history was significant. He was always well up to 1919, when it is said he had a penile chancre while serving in the army. Seven blood tests, however, subsequent to this period, all proved negative. He had only local treatment at the time of his chancre. There was said to have been a bubo accompanying the sore. Several months later he suffered from neuralgic pains in the arms and legs. A few weeks before his death small papules had been observed on the surface of his body, especially on his back. In late October of 1922 the neuralgic pain in his arms and legs was distinctly worse, and the patient was much worried about himself. His local physician at this time (seventeen days before death) observed an acneiform eruption on his back and chest, and a mucous patch on the left cheek, which was considered a possible papular syphilid. The blood Wassermann test was again negative at this time. In view of the patient's mental state (syphilophobia) and the possibility of syphilis, he was given two treatments of salvarsan, one of 0.5 of a gram twelve days before death, another of the same dose four days before death, both without special reaction. The skin cleared somewhat after this treatment.

DISCUSSION.

There are a number of unusual conditions surrounding this case. In the first place, one must consider the question of his possible syphilis and the effect of the treatment by salvarsan. It seems very doubtful if he ever had syphilis. Seven negative blood tests are very strong evidence against this diagnosis, in view of the fact that his treatment at the time of the so-called chancre had only been local.

The syphilophobia is certainly not helpful one way or the other. The observations of his local physician, however, are much more important. He observed an acneiform eruption and a suspicious mucous patch on the inside of the cheek. One would not expect secondary signs of this type three years after infection, and combined with the negative Wassermann, the evidence seems slight, on retrospection, for the diagnosis of syphilis.

The possible toxic effect of the salvarsan must be considered. The arsphenamine was administered intravenously in two equal doses of 0.5 gram (presumable neo-arsphenamine) each, twelve days and five days before death. There were no effects either immediate or remote after the first dose and no immediate effects after the second. Paralysis of the legs was first noted two days after the second treatment.

The best account of the toxic effects of salvarsan and similar preparations is found in the reports of the Salvarsan Committee of the British Medical Research Council.[2] According to this committee, about one-half of the reported so-called "salvarsan deaths" have been shown by post-mortem examination to be due to encephalitis hemorrhagica. Such cases are reported after the use of various arseno-benzol products, some after a single injection, but the majority after the second injection. The onset is sudden, usually two to five days after the last injection. The symptoms are those usually associated with acute inflammation of the brain, and death frequently occurs within forty-eight hours of the onset. These reported post-mortem examinations, although few in number, have consistently shown numerous small hemorrhages, edema and hyperaemia. In some cases hyaline thrombi of the small capillaries have been observed. A few cases showing similar symptoms have recovered after lumbar puncture, venesection and the administration of adrenalin. There are no cases

reported of any similar condition affecting the spinal cord, nor have the encephalitis cases shown spinal symptoms. It is possible that the toxic effects of salvarsan might produce myelitis hemorrhagica but, if such is the case, I have failed to find reference to cases of this type in the literature. The case I have reported might conceivably be an ascending myelitis hemorrhagica, although there were, as might be expected, no red blood corpuscles found in the spinal fluid.

Another toxic effect of salvarsan is polyneuritis. This somewhat rare complication usually follows a dermatitis and has a symptomatology entirely unlike that described in the case I am reporting. It is similar to the cases of arsenical poisoning (rat-poison) found in the older literature.

Since there are no other described conditions due to the toxic effects of salvarsan on the central nervous system, other than the two mentioned above, encephalitis hemorrhagica and polyneuritis, our case must be considered unique, if we assume that it is the result of the toxic effects of salvarsan. The points for this assumption are as follows: first, the onset was rather sudden, the course rapid and result fatal, similar to a well-grounded toxic manifestation of salvarsan, encephalitis hemorrhagica. Secondly, the disease appeared two days after the second injection of salvarsan, the most common period of onset for toxic encephalitis. Thirdly, no organisms were seen in the smear or grown on culture—a point against an infective agent as the etiological factor in this case. Lastly, the disease was obviously a myelitis, rather than a meningitis, polyneuritis, or even a poliomyelitis. On the whole, there are strong arguments by analogy for a diagnosis of toxic myelitis due to salvarsan. There are, however, well-described and similar cases of ascending myelitis in the literature, not due to a known toxic agent.

Burley[3] reports a fatal case of six days' duration in a girl of 20, beginning without ascertainable cause and ascending until the respiratory centers were reached. There were no mental symptoms, nor were the cranial nerves involved. The spinal fluid showed a great excess of white and red cells. Clinically there was motor, sensory and sphincter loss. Autopsy showed numerous minute scattered hemorrhagic areas in the brain and "extensive areas of hemorrhage within the cord, especially into the gray matter." No etiology was discovered in Burley's case, although the pathology showed "convincing evidence of an infectious as against a purely toxic reaction." The case is similar, although of longer duration, than the one here reported. The meningeal irritation, if we can judge by numbers of cells in the spinal fluid, was much greater and of a more hemorrhagic character.

Other cases recently have been reported. Perhaps the best is that of Morris and Jacobson.[4] An excellent review of the whole subject is also to be found in James Collier's article in the Oxford Medicine.[5] He classifies the whole group of ascending spinal palsies as follows:

1. Acute spreading myelitis (myelomalacia).
2. Thecal hemorrhage.
3. Spreading poliomyelitis.
4. Acute polyneuritis (Landry's).

SUMMARY.

The case here reported would seem to fall into the acute spreading myelitis group of Collier, ascending in character, with definite meningeal involvement. It varies somewhat in character from other reported cases in its great rapidity of development and the completeness of the cord involvement. A possible etiological factor is suggested in an arsphenamine reaction somewhat analogous to encephalitis hemorrhagica, although other cases of myelitis hemorrhagica have not been found in the literature. The probability of the case being one of thecal hemorrhage, spreading poliomyelitis or acute ascending polyneuritis (Landry's) seems to be ruled out by the history, course, and spinal fluid findings.*

REFERENCES.

1 Landry, O.: Note sur la Paralysie Ascendante Aigue. Gaz. hebd. de med., 1859, vi, 472, 486.
2 Reports of the Salvarsan Committee. II. Toxic Effects Following the Employment of Arsenobenzol Preparations. Medical Research Council. London, 1922.
3 Burley, B. T.: Acute Ascending Hemorrhagic Myelitis. Jour. Am. Med. Asso., 1915, lxv, 1448.
4 Morris, L. M., and Jacobson, V. C.: Acute Ascending Myelitis of the Infectious Type. Its Possible Relationship to Poliomyelitis in a Certain Group of Cases. Arch. Neurol. and Psychiat., 1921, vi, 509.
5 Collier, James: Landry's Paralysis. The Oxford Medicine. 1921, vi, 419.

* I am indebted to Drs. A. T. Hawes, E. T. Manix, and H. A. Johnson for notes on this case.

MORTAMINES OR FAULTY FOOD FACTORS.

BY FRANCIS LOWELL BURNETT, M.D., BOSTON.

[From the Skin Clinic of the Massachusetts General Hospital.]

I. FOREWORD.

There are many kinds of aliment, but that there is at the same time but one aliment.—*Hippocrates.*[1]

II. NOURISHMENT AND HEALTH.

The health and welfare of individuals and of peoples must depend on right methods of living, and of all the methods of living the most momentous are those relating to the upkeep of the body by alimentation. The lower animals select with unerring precision as long as they are in a natural environment, from the materials around them those best fitted to their wants.

The articles they choose are, of all nutrient material accessible to them, those best adapted to the special needs of their economy.[2] On the other hand civilized man, far removed from his natural environment, more often makes a selection of food from habit or custom than from instinct. Under these circumstances, the complete and proper nourishment of man is evidently a rather uncommon condition. In times of peace there may be a few that lack the necessary food substances, but there are undoubtedly others who while ingesting complete nutritive materials, do not get the amount and kind of nourishment that should be obtained from the food. Some of the semi-civilized people, who live more nearly in a natural environment, are oftentimes better nourished than those of a more intellectual state. Baron de Larrey was especially enthusiastic over the physique of the Arabs, and says "that their physical structure is in all respects more perfect than that of Europeans. Their size is above the average of men in general, and their organs of sense exquisitely acute." Simple and abstemious in their habits, they often reach an extreme yet healthy old age. Their food is very simple, and they eat but one solid meal a day, that of supper—soon after sunset. Their articles of food consist generally of ground wheat cooked with butter, bread in thin cakes, a few vegetables, generally of the leguminous kinds, boiled mutton or camel's flesh, and sometimes fish, rice, dates, fruit and coffee.[3]

Besides these people, McCarrison has made observations on an unusually healthy tribe that inhabits a remote part of the Himalaya mountains. Of them he says: "They are of magnificent physique, preserving until late in life the characters of youth; they are also unusually fertile and long lived and endowed with nervous systems of notable stability. During the nine years of my association with these people, I never saw a case of asthenic dyspepsia, of gastric or duodenal ulcer, of appendicitis, of mucous colitis, or of cancer. Indeed, their buoyant abdominal health has, since my return to the West, provided a remarkable contrast with the dyspeptic and colonic lamentations of our highly civilized communities."[4] One of the reasons he gives for such a healthy condition is that they live on "the unsophisticated foods of Nature." They eat twice a day only, their sole drink is water; and in general their food consists of wheat, Indian corn, barley, milk, melted butter, eggs, green vegetables and fruit. Sugar is a great luxury, and salt is eaten of sparingly. Eating with them is something of a ceremony, and they certainly do not gobble their food like many of the Western people.[5] This tribe has by instinct or good fortune selected a variety of food sufficient to furnish all of the food accessory substances. A few of the people of other countries have not been so fortunate. In our own Southern states a condition of disease—pellagra—has been proved to be due to deficient food. The proof was furnished by Goldberger in an interesting experiment carried on with eleven white convicts. These men were transported to a prison farm which had been free of pellagra for some time, and were given a diet similar in every respect to that ingested by many of the poor white inhabitants of this part of the country. The diet consisted of white wheat flour, degerminated corn meal, polished rice, starch, sugar, molasses, pork fat, sweet potatoes, collards, turnip greens and coffee; of which 41-54 grams of protein, 91-134 grams of fat, and 387-513 grams of carbohydrate was the average intake of each man daily. At the end of five and a half months, skin lesions characteristic of incipient pellagra appeared on six of the men, and in all of them gastro-intestinal and nervous symptoms were observed. Some of the men also lost weight, one losing about eleven and another three kilograms.[3] Such proof is convincing, and places pellagra in a class with the other deficiency diseases of a dietary origin.

III. VITAMINES.

With a few of the deficiency diseases certain accessory food factors, when absent from the diet, have been shown to be etiological agents. Thus the absence of the accessory food factor or Vitamine A from the diet of some of the animals and man is often supposed to produce rickets, deformed, irregular and carious teeth, or ophthalmia. In the same way Vitamine B is the anti-neuritic factor, and Vitamine C is the anti-scorbutic factor. These factors are undoubtedly complex and very indefinite chemical substances, and are only determined by biological tests. For example, when butter, cod-liver oil, or eggs, are added to a diet that produces rickets, and the animals continue healthy, they are known to contain the fat-soluble Vitamine A. In this way, too, yeast, bran, and some of the vegetables are known to contain the water-soluble Vitamine B; and the citrous fruits and green vegetables to contain the antiscorbutic or Vitamine C. In general, however, it is only under exceptional circumstances that the conditions of disease brought about by deficient diets occur in man. For these "Accessory factors or vitamines are widely distributed among naturally occurring foodstuffs, and in times of peace, under normal conditions of food supply, the variety of food consumed by European nations protects them from risk of any deficiency in these essential substances."[7] From this fact, determined by a commission of experts in nutrition, a lack of these accessory substances is almost a negligible factor in the diets of civilized people in times of peace. Yet in a classification of a thousand consecutive patients admitted to a clinic in Great Britain, twenty-five per cent. complained of digestive disturbances. But in a death report similarly compiled only

six per cent. died of diseases of the digestive system. "The suggestion arises that diseases of the digestive system by weakening the body predispose to other diseases."[8] Furthermore the number must be greatly increased if the diseases thought due to a digestive disturbance or a disorder of metabolism are taken into account. Accordingly, while the absence of accessory food substances or vitamines are undoubtedly factors in the production of deficiency diseases, they are so abundant in normal times that they are almost a negligible consideration. Notwithstanding this fact, a large number of patients suffer from digestive disturbances. Therefore there must be other food factors responsible for some of the vague forms of indigestion or metabolic disorder.

IV. THE INTESTINAL FUNCTIONS.

The accessory food factors have been thought of as indefinite chemical substances, and their action studied largely by chemists. But complete and proper nourishment which these substances influence includes also the field of physiology; and it is necessary to consider the subject from a broad point of view, to take into account the different forms of intestinal motility in the normal action of the gut, and to study the changes that take place in the intestinal contents and their final moulding in the form of the feces. This is because absorption and digestion are dependent on the chemical changes that take place in the intestinal contents, and these changes are undoubtedly nicely correlated to the forms of intestinal motility. By those not understanding the action of the gut, digestion and absorption are thought of as simple processes. That this is not the case may be realized by a consideration of some of the delicate and intricate actions of the intestine. In general the three most essential forms of intestinal motility are rhythmic segmentation in the small intestine, peristalsis and antiperistalsis in the proximal colon and haustral churning or segmentation in the distal colon. These mechanical actions are diagrammatically illustrated in Figure 1. In rhythmic segmentation an elongated mass of chyme may be seen at A. On moving a little further, it stops, and then by a sudden activity of the bowel it is divided into small ovoid segments as shown at B. Soon afterwards each segment is halved by further constrictions of the gut, and then half of the first segment will join with half of the second, half of the second joins half of the third, and so on. In this way new segments are formed. Such a division and reunion of the segments continues for some time, and it is by this process that most of the absorption takes place. Later the remaining chyme is passed into the first portion of the large intestine or the proximal colon. Here it joins with the material already in the sac, and being retained by the physiological constricting rings at X, is kneaded back and forth by means of peristalsis and antiperistalsis in the second form of intestinal motility. Later the soft pultaceous material is divided again into discrete masses in the intermediate colon and propelled along the distal portion of the gut. Here the masses are still further acted on in the final process or haustral churning at D. This action is somewhat similar to rhythmic segmentation, with the exception that in the final moulding of the intestinal contents the masses remain discrete. While these complex forms of

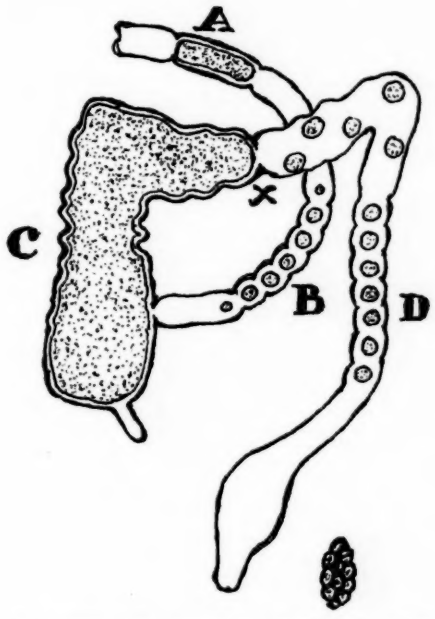

FIG. 1.—A diagram of the human gut showing the three most essential forms of intestinal motility; rhythmic segmentation in the ileum at A & B, peristalsis and antiperistalsis in the proximal colon at C, and haustral churning in the distal colon at D. X represents the physiological constricting rings that limit the proximal colon.

intestinal motility represent only the mechanical functions, we may expect to find that the rate of passage through the different parts of the tube is nicely adapted to the speed of the chemical changes.[9] Accordingly, with mechanical actions and chemical reduction complete, the intestinal contents must supply complete and proper nourishment.

The amount of food, the time of eating, and the proportion of the different elements ingested by man have been elaborated in various hypotheses, and the subject has been given a large amount of study. Work of this kind has undoubtedly brought about in many instances improved nutrition. On the other hand, it seems incredible to realize that the delicate and intricate intestinal functions already described seem to be forces within the body that have a selective action on the quantity and quality of alimentary mixtures, and in the requirements of the body for nourishment appear to be far more accurate than the wisest conceptions. Thus it would seem as if the alimentary mixtures were made sub-

servient to the natural laws. This is because the final moulding of the intestinal contents or the form of the feces evidently affords a means of determining two exact conditions of the body; one intestinal indigestion with the soft and formless feces, as shown in Figure 2; the other an improved state of well-being with the unit form of the feces, as shown in Figure 3. In the former condition the stools evidently show a loss of some of the intestinal functions, and this must be associated with a subtle and heretofore unrecognized form of malnutrition; whereas in the latter, they are an indication that the ingested material has completed its cycle of digestion and absorption, and given the body the amount and kind of nourishment that should be obtained from the food.[10]

The feces of man formed in discrete masses is often thought of as a sign of constipation. This is evidently an erroneous supposition. In the first place, the dung of the higher animals in this form is undoubtedly the normal condition. Secondly, this form of the feces is in accord with the physiology of the gut as previously described. And thirdly, from the practical point of view individuals on a unit basis generally have two dejections daily, as shown by a patient's record for a week.

FIG. 2.—The soft and formless feces of man.

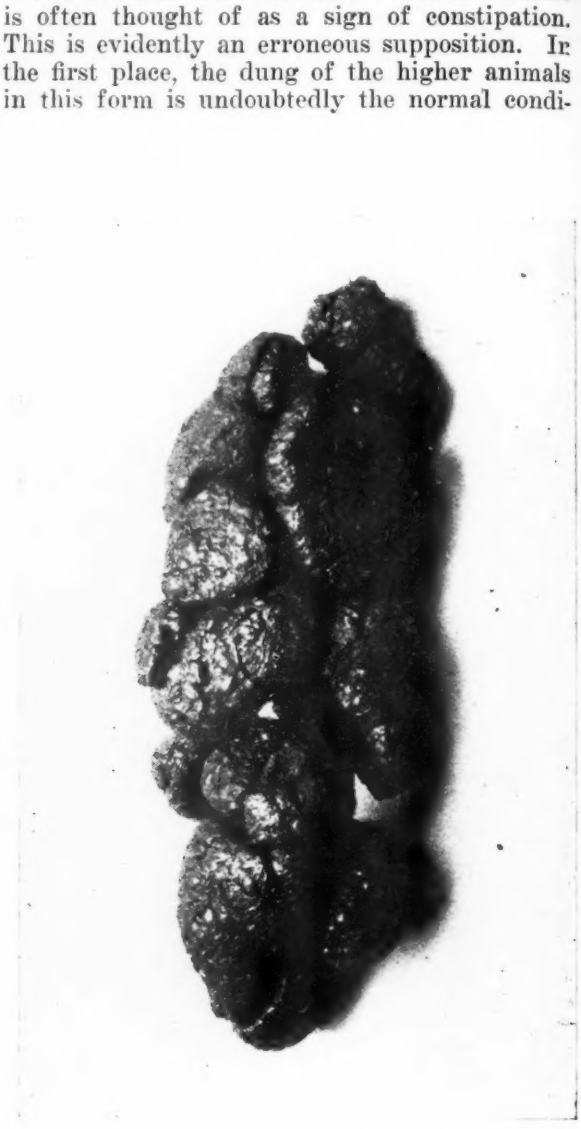

FIG. 3.—The human feces entirely formed in units.

12 XII '22.	6.20	A. M.	units	8.40	P. M.	units
	6	P. M.	took seeds			
13	7.30	A. M.	units	8	P. M.	units
14	8.20	A. M.	units	6.40	P. M.	units
15	8	A. M.	units	7.30	P. M.	units and first seed
16	8	A. M.	units and seed	8.30	P. M.	rather soft and seed
17	8	A. M.	units and seed	8.30	P. M.	units and seed
18	7.20	A. M.	units and seed	8.30	P. M.	units and last seed

The form of the feces also appears to be correlated to another factor, and that is the time taken by a substance to pass completely through the alimentary tract. From estimates made with seeds as a marker, it is possible to get a measure of the initial intestinal rate or the hours elapsing from the time the seeds were ingested to the time they are first apparent in the feces, and also the final intestinal rate, from the time of ingestion to when they are last seen in the feces. That is to say, if the seeds are taken immediately after an evening meal or 6 P.M., and are apparent the next morning at 8 A.M., the initial rate is 14 hours; and then with this form of dejection they generally continue to be apparent for two days more or with a final rate of 62 hours. But with one generally dejecting the unit form of the feces as shown in the previous record, seeds taken in a similar way are not often apparent for three days or with an initial rate of 60-72 hours, and continue to be apparent for three days more, or with a final rate of 132-144 hours. These figures serve in a way to determine the functions of the gut brought into action, and the amount and kind of nourishment derived from the food. With the slow rate with which the unit form of the feces is associated, antiperistalsis and haustral churning are evidently in operation; but with the rapid rate accompanying the soft and formless feces and intestinal indigestion, the large gut must be almost a useless organ.

The food factors active in producing this form of indigestion are the ones to be taken into account, for by eliminating them from the diet the stool ultimately changes to one entirely composed of units. The requirements necessary to produce this change are exacting and in general consist of refining and properly proportioning the food. In the first place, the food must be thoroughly comminuted and mixed with the saliva. On this point Beaumont remarks that "everybody knows that the smaller the particles of matter that are submitted to the action of a chemical the more vigorously the chemical will act on them, and the sooner they will be dissolved or decomposed."[11] Secondly, the proportions of the different elements must be suitable for the nourishment of the animal, and without an excess of sweet, fat or complex and highly spiced food. Thirdly, the mixture must be free of salts, oils and drugs, that unduly increase the intestinal rate. Accordingly, while the food of man and animals may be complete with the accessory substances, when a more critical consideration is given all food factors, there are three that are responsible for a subtle and heretofore unrecognized form of malnutrition, and these undoubtedly act as injurious agents of the body.

V. MORTAMINES.

These faulty food factors may very properly be called Mortamines, and classified according to their peculiar characteristics. In this way Mortamine A may be defined as unrefined or improperly prepared food. Such a condition is often associated with the ingestion of too much food. Mortamine B is an excess of sweet, fat, complex or highly spiced food. And Mortamine C consists of salts, oils and drugs that unduly increase the intestinal rate.

In some experiments on nutrition carried on more than a hundred years ago, Magendie records the application of what are evidently the first mortamines, although the food used was also somewhat deficient. At that time a discussion arose as to the possibility of properly nourishing carnivorous animals on non-azotized (non-nitrogenous) food. In experiments to solve the question, this renowned physiologist fed one dog entirely on sugar, another dog on olive oil, a third on gum, and a fourth on butter. The animals ate voraciously of their food at first, and for a while showed no signs of ill health. During the second week the animals began to get thin, in three weeks two of them had corneal ulcers, in four weeks they were very much emaciated, and during the fifth week most of them died. Food of this kind, while non-nitrogenous, was also very incomplete, but it likewise contained an excess of sweet or fat food Mortamine B.[11] Within recent times Erlanger and Hewlett have also demonstrated the action of the faulty food factor B on dogs from which seventy per cent. of the small intestine had been resected. These animals on a good protein diet had formed feces and were able to maintain thir body weight; but when a certain percentage of fat (an excess) was added to the food, the animals had diarrhoea and very quickly became emaciated.[12] Lately, Newburgh has demonstrated that an excess of protein fed a rabbit will produce nephritis or arteriosclerosis.[13] And in some of these animals there was a change in the form of the feces from the unit or discrete mass to a soft and formless condition.[14] Food of this kind is undoubtedly too complex for the proper nourishment of such animals and accordingly should be listed as Mortamine B. These experimental observations serve in a measure to illustrate the action of some of the mortamines; but they are more clearly demonstrated in the alimentary mixtures that are selected and ingested as nourishment for man.

Consider for a moment some of the meals consumed in a cafeteria at luncheon time. As one sits at a table there is a stout, red-faced and bald-headed man of forty, at the right. Before him is a large slice of roast beef, a portion of fried potatoes, some string beans, two rolls and butter, a cup of coffee and a piece of apple pie. Within seven minutes every plate is clean. Such a meal is undoubtedly complete and well-proportioned, but one of this sort consumed in seven minutes is not properly com-

minuted or mixed with the saliva. This mixture is not sufficiently refined to elicit the functions of the gut, intestinal indigestion ensues, which with the malnutrition associated with it is probably producing a change in the character of the cells within the body. At present with the enormous reserve that exists in all of the organs, the changes are without symptoms and will be while the organ continues to be compensated. This case illustrates the action of Mortamine A. At the next table two girls of about twenty have just sat down. Before one is a plate of fruit salad, composed of grapefruit, orange, a few slices of pear and grated nuts. A tablespoonful of whipped cream is superimposed, and the whole is laid on some lettuce leaves and French dressing. With this she also has a coffee roll and butter, a cup of tea and a chocolate eclair. In talking to her friend she said she got hungry in the middle of the morning and had a maple nut sundae and some frosted cake. When mixtures of this sort are continually being put into the body for nourishment is there any wonder that there is a mechanism by which such a mess is simply passed along the intestine rapidly and malnutrition ensues? Such is the action of an excess of sweet stuff and complex food—Mortamine B. Across the table, a gaunt, hollow-eyed man of fifty sits down. Before him is a plate of macaroni, two bran muffins and butter, a cup of tea and a piece of apple pie. With such a meal he spends twenty minutes. Then he takes a small paper package from his pocket (sodium phosphate), turns it into a tumbler of water, and drinks. With a badly balanced mixture of this kind there is evidently a necessity for the salt, and in this way the action of Mortamine C is apparent.

Considering the accessory and faulty food factors from the physiological point of view, it is not improbable that the absence of one or the presence of the other in alimentary mixtures act in a somewhat similar way. McCarrison has observed that the first as well as the most pronounced effect of deficient food in animals is a disturbance of the gastro-intestinal tract with diarrhoea or dysentery.[13] Such a disturbance must produce malnutrition of the glands secreting digestive fluids for the chyme, and on this account these fluids become low in potency or poor in chemical action. In this way the injurious effects on the body are compound. Then Newburgh states that the high protein diet fed rabbits very often produces diarrhoea at one time or another.[14] Accordingly it would appear as if these two forms of alimentary mixtures one incomplete and devoid of the necessary nutritive materials for proper nourishment, the other badly balanced and containing an excess of unsuitable food, show a somewhat similar selective action by the gut in being passed along rapidly and fail to complete the cycle of digestion and absorption.

From these observations it is evident that while there are many kinds of aliment, there is at the same time but one aliment. In other words, while many kinds of alimentary mixtures are commonly ingested by man, some of them may be incomplete and without the accessory food factors or vitamines, but more often they contain the faulty food factors or mortamines. In this way the body is imperfectly nourished and various disturbances due to a disorder of metabolism may ensue. On the other hand, there is but one alimentary mixture. This is one, complete with the accessory and devoid of the faulty food factors, which by selective action elicits all the functions of the gut, and evidently gives the individual the amount and kind of nourishment that should be obtained from the food.

VI. THE TREATMENT OF DISEASE.

In the account so far given of the action of the faulty food factors, the subject has been considered largely from a theoretical point of view; but it also has a very practical bearing. From a study of about one hundred patients with intestinal indigestion and covering a period of about two years, conclusive evidence has been found to prove the value of eliminating the faulty food factors in the treatment of disease In the first place, in obtaining a history of these patients dietary errors were in every case readily obtained. Fifty-five admitted eating too fast or habitually eating between meals, and were accordingly afflicted with Mortamine A. Fifty-eight realized that they ate too much sweet, rich highly spiced food or fruit, and were undermining their health with Mortamine B. And twelve felt or had been told that they had to take oils, salts, or drugs to relieve constipation, and were constantly afflicting themselves with Mortamine C. In the second place, in a special study of intestinal indigestion in eczema and psoriasis, sixty patients with one or other of these very resistant conditions of disease have been generally followed, in order to ascertain the value of the treatment. Of this number, twenty-five who carried out the treatment generally got into an improved state of well-being—as determined by the unit form of the feces, and are well. Several of the patients serving as controls, had dietary treatment only. Then four of the patients, with the form of the feces unknown, who generally carried out the treatment, got well. Sixteen of the number who sometimes or in part followed directions, have improved, whereas eleven who did not make an attempt to correct their dietary errors and get rid of the faulty food factors, continue to have intestinal indigestion, as determined by the soft and formless feces, and eczema or psoriasis. Of the remaining four nothing is known. A few of

the patients to recover had had lesions of the skin for twenty years, and most of them had some kind of disturbance for at least half this time. It is needless to say that most of these chronic invalids had tried every kind of treatment available in a large hospital. Then again a few to recover have once more gone back to their former habits of eating, again afflicted themselves with intestinal indigestion, and had another attack of skin trouble.*

VII. THE MAINTENANCE OF HEALTH.

"It is the gastro-intestinal tract, the functions of digestion, absorption and assimilation that are amongst the first to fail in consequence of faulty food. These are the signs that our ship is running on the rocks, and as good pilots, we must beware of them. I often think that we are apt to assume more readily the office of salvors of wrecks than of pilots whose function it is to prevent them."[16] Many of the patients previously alluded to ran on the rocks and have existed in misery for years. Shall we continue to let others take the same course or shall we attempt to be pilots of sound ships? From three years' observation of a few children generally kept in an improved state of well-being—as determined by the unit form of the feces—it is not a difficult matter to act as a pilot of sound ships. A specimen of one of them at eleven months is illustrated in Figure 4. During the time of observation, they have developed sturdy and straight frames, with a strong and enduring musculature, only a moderate amount of fat, and a skin that is clear and a good color. The teeth of the youngest two have been very regularly formed and the lymph tissue of the tonsils or pharynx has not become hypertrophied. With the exception of a few soft and formless dejections due to the occasional ingestion of one of the faulty food factors, the gastro-intestinal tract has been free of disturbances. As a rule defecation occurs twice daily, once after breakfast and again before going to bed. Their appetite has always been good, and they have eaten the food put before them. The sleep has been sound and refreshing, and they have been in a constant state of happiness. Before one of the children had been well established on a unit basis, she had a mild attack of poliomyelitis from which she has recovered entirely. With this exception, and the incidence of a few colds lasting only a few days, the children have not experienced ill health. The functions of digestion and assimilation of these children have not been allowed to fail, for they have had the accessory and have been generally free from the faulty food factors. In this way they have been kept in an improved state of well-being and evidently avoided various conditions of ill health due to the subtle and heretofore unrecognized form of malnutrition that accompanies intestinal indigestion.

FIG. 4.—The feces of an infant at eleven months entirely composed of units.

*An article on a study of "Intestinal Indigestion in Eczema and Psoriasis" is to be published shortly.

VIII. CONCLUSION.

The health and welfare of a people depend on the right methods of living, and the most momentous of these is the upkeep of the body by alimentation. Some of the semi-civilized people living more nearly in a natural environment may have an instinct for the selection of food that makes them healthier than those of a more intellectual state that eat more by habit and custom. There are a few people who lack the accessory food factors or vitamines; but there are many having a complete food who get disorders of the gastro-intestinal tract. These disturbances seem likely to be due to other food factors; for when a critical consideration is given the action of the intestine as determined by the final moulding of its contents or the form of the feces there appear to be alimentary mixtures that do not complete their cycle of digestion and absorption. It is evidently by selective action that all of the functions of the gut are elicited; and when the mixture is unrefined, badly balanced or contains substances that unduly increase the intestinal rate, there is a disorder of metabolism, malnutrition, and intestinal indigestion, as determined by the soft and formless feces. These faulty food factors may

very properly be called mortamines, and described according to their peculiar characteristics as Mortamine A, a coarse and improperly prepared food; Mortamine B an excess of rich and complex food; and Mortamine C substances that unduly increase the intestinal rate. From a physiological point of view the accessory and faulty food factors may act in the same way The elimination of the Mortamines has been proved of value in the treatment of some very resistant forms of disease undoubtedly due to malnutrition; but avoiding them entirely is the most intelligent application of this principle, for in this way the body is maintained in an improved state of well-being—as determined by the unit form of the feces—and various secondary condition of disease are likely to be prevented.

Accordingly, while there are many kinds of aliment, there is at the same time but one aliment: and this is one complete with the accessory and devoid of the faulty food factors, which completes its cycle of digestion and absorption, and gives the body the amount and kind of nourishment that should be obtained from the food.

REFERENCES.

1 Hippocrates, quoted by Beaumont, William. Experiments and Observations on the Gastric Juice and the Physiology of Digestion. Plattsburgh, N. Y., 1833, p. 27.
2 Crichton-Browne, Sir James: Parsimony in Nutrition. Funk & Wagnalls Co., London and New York, 1909, pp. 1 and 22.
3 Encyclopedia Britannica, 11th Edition, Vol. ii, pp. 285-6.
4 McCarrison, R.: Faulty Food in Relation to Gastro-intestinal Disorder. Jour. A. M. A., Vol. lxxviii, No. 1, p. 2.
5 McCarrison, R.: Personal communication.
6 Goldberger, J., Wheeler, G. H., and Sullivan, M. X.: The Experimental Production of Pellagra in Human Subjects by Means of Diet. U. S. Public Health Service, Hygiene Laboratory Bulletin No. 120, Feb., 1920. Published Health Reports, Nov. 12, 1915, 3336.
7 Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines). Compiled by a Committee appointed jointly by the Lister Institute and the Medical Research Committee. H. M. Stationery Office, London, 1919 p. 97.
8 Mackenzie, Sir James: The Future of Medicine. Henry Frowde London, 1919, p. 7.
9 Cannon, Walter B.: The Mechanical Factors of Digestion. Longmans Green & Co., New York City, 1911, p. 2.
10 Burnett, F. L.: Fecal Units and Intestinal Rate, a Basis for the Study of Health and Intestinal Indigestion. Boston Med. and Surg. Jour., Vol. clxxxiv, No. 15.
11 Magendie, Francois: Memoire sur les proprietes nutritive des substances que ne contiennent pas d'azote. Megingnon-Marvis, Paris, 1816-17.
12 Erlanger, J., and Hewlett, A. W.: A Study of the Metabolism of Dogs with Shortened Small Intesine. Am. Jour. Physiol., 1901, Vol. vi, p. 1.
13 Newburgh, L. H.: The Production of Bright's Disease by Feeding High Protein Diets. Arch. Int. Med., 1919, Vol. xxiv, p. 358-377. Production of Arteriosclerosis in Rabbits by Diets Rich in Animal Proteins. Jour. A. M. A., Sept. 30, 1922, Vol. lxxix, pp. 1106-1108.
14 Newburgh, L. H.: Personal communication.
15 McCarrison: *Loc. cit.*, p. 6.
16 McCarrison: *Loc. cit.*, p. 4.

DIET DURING PREGNANCY.*

BY HILBERT F. DAY, M.D., F.A.C.S., BOSTON.

Pregnant women have been a topic of great interest as long as the human race has existed, and have been particularly studied since the definite specialty of obstetrics has been separated from the mass of other conditions which are treated by physicians at large.

Because this is so, there should be no difficulty in deciding what is the correct diet for pregnant women, but apparently nobody until very recent years has given the subject any definite thought, at least not enough to have written about it.

When asked to talk to this group of dietitians and social workers, I knew that I had very definite ideas myself, but in addition wanted to get the opinions of others interested along this line. With this in view, I have for the last two months been corresponding about the subject.

One of the leaders of the profession in Boston wrote, "Of course the diet problem is being worked out for individual conditions where a patient is in a hospital and under control, but as far as the working out of the general problem of what diet should be used to produce the best results for both mother and child in normal cases, I must say that I know of no one who is working on that problem."

Others have written that the only work of possible significance is animal experimentation. Those who have worked on that have only touched a small phase of this subject.

Many special problems have been thought of and dealt with during pregnancy. One which has always interested me was the question of whether the child's size could be influenced by the mother's diet. When I first started in practice, my ideas of what should be done for antepartum treatment were very meager. All I realized at that time was that I should estimate the pelvic measurements and look in a general way after the health of the patient and carefully follow her urinary function. I made no attempt to limit or increase the amount of food she took. I found that I had at the time of delivery very large, fat patients, often a very difficult delivery and usually a very large baby. Later, when I began to regulate diet, I delivered some of my early patients a second time, having been able to keep their weight down and had a much easier time at delivery and smaller babies.

Mrs. B—— first brought this fact home to me. At the first delivery she had an 11-pound baby. The second time I delivered her her baby weighed at full term 7 pounds, 9 ounces. It is true the baby was of a different sex, but that would not account for the difference of over three pounds in weight.

A second case had a first baby weighing 10 pounds, 2 ounces, and at the time of her second delivery, having had more careful supervision, her baby, of the same sex as the first one, a boy, weighed 8 pounds, 1 ounce. Of course the few cases I had in early practice without dietary supervision are not enough to establish the influence of diet on the baby's weight, but they are enough to make me think the observations important. I will never be able to have a control series of cases (those women who are free

*Read before the New England Home Economics Association, February 23, 1923.

to eat what they wish) for I am never going to allow cases under my observation to put on an unnecessary amount of weight.

Minor considerations have also been dealt with, such as the nausea and vomiting of the early months (usually helped by a small meal eaten half an hour before rising), constipation, hyperacidity, etc. (Several small meals a day sometimes relieve pregnancy indigestion.) Our main reasons for being interested in diet are to keep the mother in the best possible state of health during her entire pregnancy and at the end to have as healthy a baby as possible.

In thinking of pregnancy in relation to diet, the lunar months may be divided into three periods, the first one running from conception to the end of three lunar months. During that period the uterus is slowly enlarging, and not until the end of that period is it out of the pelvis. It is a time when miscarriages are apt to happen, and some of the investigators, notably Reynolds and Macomber, have thought that miscarriages happen more frequently when the patient was taking a calcium deficient diet. This was borne out by animal experimentation. This first period is a time when most women fail to gain even if allowed their own choice of food, for it is in a large number of cases accompanied by a form of indigestion and often by morning sickness and vomiting at irregular times during the day, therefore during this period the obstetrician has to use his ingenuity in keeping up his patients' general nutrition.

The second period follows the first for about four lunar months, and is generally in pregnancy a period of health. The uterus, although enlarging, does not become burdensome and the patient can be very active. The main thing that happens during this period in relation to the growth of the foetus is that the calcification of the child's teeth begins in the seventeenth week, that is, a little past the fourth month. At this time we must see if the diet contains enough calcium.

The third, or last, period is about three lunar months long and this is the time of rapid growth of the foetus, for during these last three months the child gains half of its weight. It is a period when the mother, because of the greater size of the uterus and its contents, is apt to be much less active, is hungry, constipated, and without supervision of diet rapidly increases in weight. During this period an obesity diet often is indicated, that is, one which is bulky, largely vegetable, and low in caloric value. A few of the green or leafy vegetables which are useful at this time to obtain bulk and furnish proper minerals and vitamines are:

Spinach,
Cabbage,
Kale,
Beet greens,
Lettuce,
Asparagus,
Cauliflower (and its leaves),
Escarole,
Dandelion greens,
String beans,
Artichokes,
Celery.

The diseases and abnormal conditions which intervene and may change diet as prescribed for a normal individual are chiefly tuberculosis, heart disease, diabetes and toxemia. This last is the most important. It can almost always be held from becoming active eclampsia by changes in diet, that is, cutting down the protein intake (that is, chiefly diminishing the amount of fish, eggs and meat ingested) and increasing the elimination and not allowing the patient to become fat. The other constitutional diseases mentioned before have to be individually treated and not in a very different manner from the same diseases if found without pregnancy, therefore I will not go into detail about them.

In suggesting a diet for a normal pregnant woman, we must strive to select a menu which will please the patient and promote the best conditions of health. It should be a mixed diet and should be bulky enough to aid in the elimination.

The idea that a pregnant woman has to eat enough food for herself and also for the baby is true, but is misinterpreted by the laity, for, of course, the woman must be satisfied and the baby *will be* satisfied. Even if the woman is not satisfied the baby goes on growing. He gets what he needs. This fact is borne out by actual experience. The following will serve as an illustration.

About three weeks ago I was called in consultation to see a very poor woman in one of the neighboring cities. She was absolutely emaciated and gave the appearance of a woman of 65 years. She had been vomiting for about three weeks and said that she had retained only water. She was very weak and had been confined to her bed for a month. She was toxemic and had a partial placenta previa. She was taken to a hospital and delivery by podalic version and extraction was performed. Despite the extreme emaciation of the woman, the baby was very well nourished and weighed 10 pounds, 5 ounces and was apparently in the pink of condition. The size of the baby was partly accounted for by the fact that this was the patient's fifteenth pregnancy.

Of course, the first thing that a special student of foods would look for in a diet is a question of whether three vitamines are present. These are:

Fat-soluble A.
Water-soluble B.
Water-soluble C.

The first, fat-soluble A, is largely found in animal fats, such as milk, eggs, beef fat, and cod-liver oil. It is also found in the leaves or growing parts of plants, such as asparagus, cabbage, celery, lettuce, and other greens. As it may be dissolved in fat, it is named as above to distinguish it from the other vitamines. Substantial

subtraction of it from the diet has been shown to practically entirely inhibit growth.

Water-soluble B occurs in a larger number of foods than A, and therefore there is less risk of its not occurring in any diet. It is named because of its solubility, and if the water in which vegetables are boiled is thrown away it is apt to be lost, therefore this water should be used in soups and gravies in addition to a meal. Practically the only foods which do not contain it are:

White flour,
White rice,
Starch,
Fats,
Sugars.

Subtraction of it from a diet is apt to bring on a loss of control of the nerves and perhaps finally paralysis.

Water-soluble C is the vitamine which protects against scurvy. It is also soluble in water and as in B, it is quite likely to be lost during cooking. It is best found in fresh fruits and vegetables. Bread and meat contain very little of it. Sugar and butter contain none at all. We are apt to insure its administration by prescribing a certain amount of orange juice. During war times it was supplied by tomatoes. When it is not present in the diet, scurvy is sure to develop.

There is a fourth vitamine, sometimes called D, but named X by Dr. Herbert M. Evans, of the University of California, who writes on the existence of this hitherto unrecognized factor essential for reproduction. It apparently is best found in fresh green leaves of lettuce, and he says that a food may contain enough of A adequate for normal growth, freedom from eye diseases, and indeed vigorous health and still be inadequate for reproductive function. He further says that a conception is apparently strengthened by the reappearance of the fertility which he has discovered to take place when the butter fat quota has been increased so as to constitute 24 per cent. by weight. He has also proved by experiment that increased fertility is not due to an increase of either water-soluble B or C.

Certain mineral elements are also essential to normal growth. They are not valuable for combustion. These mineral elements are contained in many foods, but some foods are particularly valuable for certain of the elements. They enter into tissue-building, and dissolved in the blood help to regulate the body processes, assist in combustion, and are responsible for muscle function. It has been stated that life could not exist without mineral elements. Certain of them are carried in solution and are deposited to give hardness to bones and teeth.

Iron, particularly, helps to make blood and assists in making energy available. .0001 grams per pound per body weight is essential daily. Spinach and lettuce are the best vegetable sources of iron.

Calcium and *phosphorus* make up the bulk of the teeth and bones. In normal diet these minerals are chiefly found; calcium in milk, iron in eggs and certain green vegetables, phosphorus in grains which have not been refined. The amount per pound body weight of calcium needed daily is .0045 gram and of phosphorus .01 gram.

Calcium in some form is essential to the mother and child during pregnancy, for unless it is ingested the child will extract calcium from the mother, and her bones and teeth are apt to suffer. Of course, the best form in which to give the calcium is in milk, remembering that skimmed milk or buttermilk contains as much calcium as whole milk. Cheese, also, contains calcium in large amounts, but when we have a patient who is unable to take sufficient milk in one form or another, it seems advisable to give calcium lactate or calcium carbonate as an addition to the diet.

Dr. Percy R. Howe, of the Forsyth Dental Infirmary, suggests that calcium carbonate, four grams three times a day, perhaps combined with two grams of sodium phosphate, would be a satisfactory dose. I believe that a slightly larger amount of calcium carbonate should be given, as all that ingested is not made use of. For the use of my patients, I have prepared a tablet which contains the mineral essential as an addition to diet during pregnancy, as I feel that a tablet is much more easily taken than powdered chalk. The very real need for calcium must be remembered, and, as I have said above, can be taken care of by a sufficient amount of milk or milk products, but when it is impossible to get the patient to take them, it must be made up by giving calcium itself.

Experimental work by Drs. Reynolds and Macomber has made them think that certain miscarriages are due to a diet low in calcium, which, of course, is another factor to be considered.

To cover all the requirements discussed before, the normal diet of a pregnant woman must contain *milk,* either as whole milk, skimmed milk, buttermilk or cheese. Ordinarily about one quart a day should be taken. This can be drunk as milk or taken in such foods as coffee, sauces, soups, custards, eggnogs, etc.

Cereals, or starchy foods, are preferably taken in the form of whole grain, such as oatmeal and whole-wheat, in order to get all the food values. They can be easily taken in the form of bread. Whole-wheat or rye bread is the best kind.

Vegetables should be taken daily, and at least one of them should be a leafy one. Fresh fruit, oranges particularly, is efficient.

Meat, fish and *eggs* should be taken in moderate sized portion daily unless kidney conditions or increased blood pressure makes it necessary to diminish the amount.

Fat in moderate amount. As to the amount the patient can be advised to eat, no general rule can be stated, for it is an individual matter, varying according to the patient's weight.

Water, six or eight glasses daily, should be a part of every diet. Overeating should not be countenanced and no food which is known to disagree should be used. Of course, the amount of water taken in soups, tea and coffee and other drinks can be subtracted from the total amount of water which I have above suggested as necessary.

As it is best that the bowels should move every day freely, certain articles of diet help as laxatives. In a general way they are fruits, green vegetables, coarse breads and cereals. These elements may have to be increased in the daily intake in order to obtain the result desired. Bran in bread or eaten raw with cream alone is often effective. It may also be mixed with vegetables or fruit.

Always a *very important* thing to be considered in caring for a pregnant woman is the question of her change in weight. The routine monthly weighing of such patients is essential in their prenatal care. If a patient should lose very much weight during the first three months of pregnancy, a distinct effort should be made to get her back to normal by added rest (as lying down after each meal) and changes in diet. Of course this is not the difficulty which is the most common. The chief difficulty of the obstetrician is that the patient puts on weight too rapidly, and obesity should be avoided for several reasons. First, because you want to have as easy and normal a labor as possible, and my experience, as previously cited, shows that with an abnormal increase in weight you have a larger baby at term than if the diet is limited. Also, if the mother puts on a lot of fat, her birth canal is somewhat lessened in size and her muscles are more flabby.

Dr. C. Henry Davis, of Milwaukee, has called attention to the fact that there was a marked decrease of eclampsia in Central Europe during the war period, and it made me remember that most of the eclamptics I have seen have been patients who gained weight rapidly during pregnancy. Of course, this does not prove that such patients are more liable to have toxemia, but it is at least true that such patients do less well during pregnancy and labor, and therefore they may be more susceptible to toxemia.

There is an added reason for dieting. Every woman who comes to an obstetrician for care wishes to be discharged in as good condition as possible, and if you have discharged her weighing 20 or 30 pounds more than normal, you are not discharging her in as good shape as you should, for she will not have as good a figure and will not feel as well. The time to avoid this unhappy result is during pregnancy rather than after delivery, for after delivery the mother often has to eat an added amount of food to keep up her milk supply.

The restriction of diet during the last few months of pregnancy is often very difficult and takes a great deal of moral support from the physician and fortitude on the part of the patient, but the results are extremely pleasing.

To illustrate this, I have studied my private records of 25 pregnancy cases taken from the files at random. I find in this group 17 primipara (women in first pregnancy) and eight multipara (women in subsequent pregnancies). Their ages vary from 21 to 39 years, with an average age of 30.3 years. Examination of their weight records shows that their weight varies from 110 to 242 pounds, but their average weight is 137.6 pounds. Their average gain in weight during pregnancy was 14.2 pounds, in contrast to the text-book gain of over 20 pounds. In the first three months their average gain was only six-tenths of a pound and in the last three months it was only four and nine-tenths pounds, which, you remember, is the period when they normally gain very rapidly, ordinarily as much as 15 pounds. All of these women went through delivery and had living babies. None of them had toxemia. The greatest gains in weight were allowed the smaller women, who seemed undernourished. For instance, the woman who weighed 110 pounds was allowed to put on 20 pounds, while through great effort, the large, stout women were maintained on a very strict diet; the 242-pound woman gained only 12 pounds during pregnancy.

To get more conclusive evidence of the perfect diet during pregnancy large obstetrical clinics must definitely focus their attention on this subject. They must definitely follow a large series of cases to find out whether special diets will produce a better baby and leave the mother at the end of pregnancy in better physical condition than she would be without kind or careful supervision. In order to judge whether we have a better baby, it would be necessary to follow the children of mothers who have had special feeding, and study during their development the effect on their bones and teeth, their vitality and ability to develop properly.

In order to aid in preparing meals for individual patients, the following practical food list shows how a meal of high or low caloric value can be worked out and also shows the amount of mineral element such a meal would contain. The following list was prepared for me by Miss Frances Stern, of the Food Clinic of the Boston Dispensary.

The amounts of each food listed give approximately 100 calories.

The pregnant woman should have from 2000 to 3000 calories of food a day. During the first period, particularly if she is undernourished, we should try to have her meals total 3000 calories or more. In the second period ordinarily she can have less, and during the

t.—Teaspoon, tb.—tablespoon, h.—heaping, ave.—average, cal.—calories. Oz.—ounces, c.—cup, med.—medium, in.—inches.

Food.	Measure portion	Weight	Protein grams	Calcium grams	Phosphorus grams	Iron grams
Protein Foods.						
Eggs (white)	7 whites	6.9 oz.	24.12	.020	.022	.00020
Fish (lean)	piece 3x3x½	2.4 "	22.6	.025	.259	.0012
Fish (oily)	——	—	13.3	.015	.153	.0007
Meat (beef)	1 sl. 3x3x1½	2 oz.	12.	.007	.129	.0018
Meat (mutton)	1 sl. 3x3¼x⅛	—	6.2	.004	.067	.0009
Meat (lamb)	1 sl. 3½x4½x1/3	1.8 oz.	6.4	.004	.069	.0010
Chicken (lean)	——	2.5 "	19.9	.006	.075	.0029
Cheese (American)	1⅛ in. cube	8 oz.	6.1	.211	.156	.0003
Cheese (cottage)	5½ tbsp.	3.2 oz.	18.3	.211	.156	.0003
Milk (whole)	⅝ cup	5.1 oz.	4.8	.174	.134	.0009
Milk (skimmed)	⅞ "	5.1 oz.	9.3	.331	.262	.0007
Oysters (raw)	2/3 cup	7.2 "	12.3	.106	.306	.0089
Beans (white, dried)	2 tablespoons	1 "	6.5	.047	.137	.0020
Nuts (peanuts)	20-24 single	.6 "	4.7	.013	.073	.00049
Nuts (pecans)	12 "	.51 "	1.3	.012	.045	.0004
Nuts (walnuts)	16-18 nuts	0.5 "	2.6	.013	.015	.0003
Gelatine,	——	27 grams	24.9			
Mineral Foods.						
Vegetables,						
Asparagus,	20 stalks, 8 in. long	15.9 oz.	8.1	.122	.177	.0045
Beets,	4 beets, 2 in. diam.	7 "	3.5	.064	.84	.0013
Cabbage,	5 c. sliced	11.2 "	5.1	.143	.092	.0035
Carrots,	4 to 5 young carrots,	10.5 "	2.4	.124	.101	.0013
Celery,	4 cups in 1 in. pieces,		1.3	.421	.201	.0027
Lettuce,	2 large heads,	18.5 "	6.3	.224	.224	.0079
Onions,	3 to 4 medium,	7.2 "	3.3	.069	.093	.0010
Peas (fresh)	¾ cup	3.5 "	6.5	.026	.120	.0017
Radishes,	36 small	12 "	4.4	.073	.98	.0021
Spinach,	3 cups	14.7 "	8.8	.281	.285	.0150
Squash (winter)			3.1	.038	.069	.0013
String beans,	2½ cups	8.5 "	5.6	.110	.126	.0027
Tomatoes (fresh)	2 to 3 medium	15.5 "	4.0	.050	.113	.0018
Turnips,	2 c. cut in cubes	13 "	3.3	.161	.117	.0013
Fruits,						
Apples (fresh)	1 large	7.5 oz.	0.6	.012	.020	.0005
Dates,	4½ dates,	1.1 oz.	0.6	.019	.016	.0009
Grapes (Concord)	1 large bunch,	5 "	1.4	.019	.032	.0003
Oranges,	1 large,	9.5 "	1.6	.088	.040	.0004
Bananas,	1 "	5.5 "	1.3	.009	.031	.0006
Peaches,	3 medium,	60.5 "	1.7	.038	.057	.0007
Pear,	1 large,	6.3 "	1.0	.024	.041	.0005
Pineapple,	2 slices, 1 in. thick,	8.2 "	0.9	.041	.064	.0012
Prunes,	4 medium,	1.4 "	0.7	.018	.035	.0010
Raisins,	¼ cup,	1.1 "		.019	.040	.0063
Raspberries,	1⅛ cups,	5.3 "				
Strawberries,	1 1/3 "	9 "	2.5	.104	.072	.0021
Watermelon,		11.7 "	1.3	.038	.010	.0010
Fats						
Bacon (fried)	4 to 5 small slices	5 "	1.7	.001	.018	.0003
Butter,	1 scant tbs.	0.5 "	0.4	.002	.002	.00003
Chocolate (unsweetened)	¾x¼x⅞	2.1 "	2.1	.015	.075	.0004
Cream,	1½ tbs.	2.1 "	2.1	.015	.075	.0004
Egg yolk,	2 yolks	0.9 "	0.6	.020	.020	.00005
Fat meat (beef)	5x2½x¼	1 "	4.32	.036	.118	.00230
Ice cream,	2½ tbsp.	1.6 "	7.5	.004	.081	.0011
Milk,	⅜ cup		1	.040	.040	.00010
Olive oil,	1 tbs.	5.1 "	4.8	.174	.134	.0009
Walnuts,	16 to 18 nuts	0.4 "				
		0.5 "	2.6	.013	.015	.0003
Miscellaneous						
Some high in fuel value.						
Bread (whole wheat)	2 slices, 3x3x½ in.	1.4 "	3.9	.020	.070	.00064
Cake,	1 piece 2.5 in. sq.	1.4 "	3	.099	.133	.00092
Crackers (soda),	4 crackers,		2.4	.006	.025	.0004
Honey,	1 tbs.,	1.1 "	0.1	.002	.006	.0003
Macaroni,	1 cup,	4 "	3.7	.006	.040	.0003

Food.	Measure portion	Weight		Protein grams	Calcium grams	Phosphorus grams	Iron grams
Miscellaneous (continued)							
Molasses,	1.5 tbsp.	1.2	"	.816	.071	.014	.0024
Oatmeal,	1/3 cup,	1	"	4.2	.017	.009	.0010
Potatoes (sweet)	½ medium,	3.6	"	1.5	.016	.037	.0004
Potatoes .(white)	1 medium,	5.3	"	.43	.016	.069	.0016
Shredded wheat,	1 biscuit,	0.9	"	3.5	.011	.089	.0012
Tapioca,	3 tbs.,	1.0	"	0.11	.004	.025	.0005
Cookies,	2 cookies,						
Sponge cake,	1 slice,						
Jelly,	1 tbs.,						
Soups,							
Split Pea,	½ cup,	100 gram		30.			
Tomato,	1 cup,						
Bouillon,	5 cups						

third period the caloric value of her daily intake in my estimation should be about 2000 calories. particularly if she has a tendency towards obesity.

Miss Stern has suggested meals for one day of each period, as shown below. The menus for a day of the first period plan for more meals than are always needed and they add up to greater caloric total than is often essential, but they show what can be accomplished by giving repeated small meals. The total of meals suggested for one day of the third period, when compared with that of the first period, shows how much the caloric intake can be cut down and still give the patient enough food.

TYPE MENU FOR FIRST PERIOD.

Food	Measure	Ounces	Grams	Carbo-Hydrates Grams	Protein Grams	Fat Grams	Calories	Total
Early Morning Meal.								
Orange,	1 medium	5	150	15	0	0	60	
Triscuit,	1	½	13	9.5	1.5	0	44	
Milk,	1 glass	8	240	12	8	8	152	256
Breakfast.								
Prunes with juice,	5 prunes	4	125	34	1	0	140	
Egg (soft cooked)	1			0	6	6	78	
Toast (whole wheat)	2 sl. 2½"x2¾"x¼"	2.4	42	20	4	1	105	
Butter,	2 level t.	0.3	10	0	0	9	81	
Cocoa,	1 cup	9.	270	24	9.5	12	240	644
Mid-morning meal.								
Milk,	1 glass	8.	240	12	8.	8.	152	
Graham crackers,	2	0.8	24	18	2.	2.	98	250
Luncheon.								
Cream of celery soup,	1 cup	7.2	216	14	5.5	14.	204	
Saltines,	2	.3	9	5	1.	1	33	
Tomatoes-celery-green pepper salad,	3 tomatoes celery, peppers, 3 leaves lettuce	5.0	150	4.5	2.	0	26	
4 t. French dressing	4 t.			0	0	14	126	
Bread (whole wheat)	2 sl. 1½"x2¾"x¼"	1.4	42	20	4	1	105	
Butter,	2 level t.	.3	10	0	0	9	81	
Chocolate Blanc Mange	½ cup	3.8	114	29	4	7	195	
Whipped cream,	2 t.	1.	27	1.5	1	30	280	1,050
Afternoon lunch.								
Tea with lemon,	1 cup							
Lettuce sandwich 1 t. butter 1 t. mayonnaise	2½"x2¾"x¼"	1.4	42	20.5	4	17	251	251
Dinner.								
Clear soup with vegetables — carrots, turnips, onions	1 plate	84	240	3.	1.5	0	18	
Saltines,	2	.3	9	5.	1.	1	33	
Steak,	2"x1½"x¾"	2.	60		16	10	154	
Baked potato,	1 medium	6.	180	30.	5	0	140	
Butter,	2 level t.	.3	10	0	0	9	81	
String-beans,	3 t.	5	150	4.5	2	0	26	

Food	Measure	Ounces	Grams	Carbo-Hydrates Grams	Protein Grams	Fat Grams	Calories	Total
Dinner (continued)								
Tomato salad with French dressing,	4 t. medium tomato 4 leaves let.	6.6	200	6.	3	14	170	
Ice cream,	½ cup	3.2	96	16.5	2	14	200	822
Night lunch.		8.	240	12.	8	8	152	
Warm milk,	1 glass	0.8	24	18	2	2	98	250
Graham crackers,	2							
								3,523

The amount of protein and the total caloric intake for the day, suggested above, can be easily cut down by substituting tea, bouillon or cracked cocoa for milk in the early morning meal and for the breakfast cocoa.

TYPE MENU FOR SECOND PERIOD.

Food	Measure	Ounces	Grams	Carbo-Hydrates Grams	Protein Grams	Fat Grams	Calories	Total
Breakfast.								
Grapefruit,	½							
Oatmeal,	5 t. dry measure	5	150	10			40	
Cream, 18%	⅛ c. or 2 t.	1	30	20	5	2	118	
Sugar,	2 t.	1	30	1	1	6	62	
Egg,	1	3	10	10			40	
Graham muffin,	1				6	6	78	
Butter,	1 level t.	2	60	6	4	2	58	
Cocoa,	1 cup	.15	5			5	45	
		9	170	24	9.5	12	242	683
Middle of morning.								
Bouillon.								
Luncheon.								
Baked macaroni with cheese and tomato,		4.2	126	22	8.5	9	200	
Asparagus salad,								
5 stalks asparagus,	5 stalks,	3.3	100	3	1.5		18	
4 leaves lettuce,	4 leaves,							
4 t. French dressing,	4 t.			0	0	14	126	
Bread (whole wheat)	1 sl. 2½"x2¾"x¼"	0.7	21	10	2.	.5	52.5	
Baked apple,	1 medium	4.5	135	48	1	.5	200.	
Milk,		6	180	9	6	6.	114	710.5
Mid-afternoon lunch.								
Tea with lemon,								
Lettuce sandwich 1 t. butter, 1 t. mayonnaise	2½"x2¾"x¼"	1.4	42	20.5	4	17	251	251
Dinner.								
Cream of spinach soup,	1 cup	8.4	252	14	8	12	196	
Lamb chop,	2"x2"x½"	1.6	48		10	6.5	99	
Mashed potato,	½ cup,	3.1	93	11	2	5.3	100	
Carrots,	2 t.	5.	100	6	1.5		30	
Lettuce with 2 t. French dressing,	½	16.6	50	1.5	1	7	73	
Cake,	1 piece,	1.3	39	27	3	4	183	
Raspberry sherbet,	½ cup	4.2	126	49.5	.5		200	881
								2,525.5

TYPE MENU FOR THIRD PERIOD.

Food	Measure	Ounces	Grams	Carbo-Hydrates Grams	Protein Grams	Fat Grams	Calories	Total
Breakfast.								
Grapefruit,	½	5	150	15			60	
Sugar,	1 t.	.15	5	5			20	
Egg,	1				6	6	78	
Toast,	2 sl. 2½"x2¾"x¼"	1.4	42	20	4	1	105	
Butter,	2 level t.	0.3	10			9	81	
Cocoa, ½ milk,		9	270	19	5.5	7	161	505
Mid-morning meal.								
Orange.	1	5.	150	15			60	60
Luncheon.								
Bouillon,								
Vegetable stew,	1 plate	6.6	200	6	3		36	
Butter,		.15	5			5	45	
Bread,	2 sl. 2½"x2¾"x¼"	1.4	42	20	4	1	105	
Fruit salad, ½ grapefruit, 1 orange		10	300	20	0	0	80	
Mineral oil mayonnaise,	2 t.			0	0	0		
Sugar,	1 t.	.15	5	5			20	
Oatmeal macaroons,	3	1.	30	25	4	3	147	433
Mid-afternoon tea.								
Tea with lemon, Date sandwiches,	2 triangles 3"x3½"x4¾"	2.2	66	33.5	3	6	200	200
Dinner.								
Cream of tomato soup,	1 cup,	9.6	288	20	8	21	301	
Halibut,	3"x2¼"x1"	4	120		20	5.7	131	
Potato,	1 small	3.6	108	22	2.7	.1	100	
Spinach,	3 t.	5.	150	4.5	2		26	
Cucumber-lettuce salad, mineral oil mayonnaise		3.3	100	3	1.5		18	
				0	0	0		
Apple snow,	1 c.	2.1	63	23	1.5	.2	100	
Soft custard,	1/3 cup	2.2	66	11	3	5	100	776
								1,974

BIBLIOGRAPHY.

Calcium Requirements of Children. Sherman and Hawley, Jour. Biol. Chem., Aug., 1922.
Dietetics for High Schools. Mineral Elements and Vitamines. Florence Willard and Lucy H. Gillett. Macmillan, 1921.
Dietetics for Nurses. Fairfax T. Prondfit. Macmillan, 1923.
Feeding the Family. Mary S. Rose. Macmillan, 1917.
Food for the Family. Elizabeth M. Anderson. Publication of the Nutrition Bureau, N. Y. Association for Improving the Condition of the Poor.
Food for the Worker. Stern and Spitz. Whitcomb & Barrows, 1917.
The Newer Knowledge of Nutrition. McCollum. Macmillan, 1922.
The Present Status of Experimental Rickets. Nina Simmons. Jour. Home Economics, Dec., 1922.
Science. Herbert M. Evans, M.D. Vol. lvi, No. 1438, pp. 640-651, Dec. 8, 1922.
Weight as a Routine Test in Pregnancy. Dr. C. Henry Davis. Jour. A. M. A. Vol. lxxx, No. 4, p. 249, Jan. 27, 1923.

Also by letters or interviews:

Editor, Jour. A. M. A.
Dr. L. V. Friedman, Professor of Obstetrics, Tufts Medical School, Boston.
Dr. Percy R. Howe, Forsyth Dental Infirmary, Boston.
Mary R. Lakeman, Assistant Director, Division of Hygiene, Massachusetts.
Professor E. V. McCollum, Johns Hopkins University, Baltimore.
Dr. Lafayette B. Mendel, Professor of Biological Chemistry, Yale University, New Haven.
Dr. Franklin S. Newell, Professor of Obstetrics, Harvard Medical School, Boston.
Drs. Reynolds and Macomber, Boston.
Dr. Anna E. Rude, Director Children's Bureau, Maternal and Infant Hygiene, U. S. Department of Labor, Washington, D. C.

The Massachusetts Medical Society.

ONE HUNDRED AND FORTY-SECOND ANNIVERSARY TUESDAY, JUNE 12, AND WEDNESDAY, JUNE 13, 1923,

AT THE MAPLEWOOD HOTEL, PITTSFIELD.

GENERAL INFORMATION.

A Bureau of Information will be maintained by the Committee of Arrangements during Tuesday and Wednesday at the office of the Maplewood Hotel. A folder containing full information concerning accommodations, entertainments, and amusements will be distributed there.

All Fellows are requested to register and procure their badges and dinner tickets as soon as they arrive.

A cordial invitation is given to the wives and families of Fellows to attend the convention. The local Committee of Arrangements has made plans, through their ladies' committee, to entertain the families during the two days of the meeting. Fellows will please indicate on the post card previously sent the number of ladies who will accompany them and also supply the information to the Bureau of Information on arriving.

TUESDAY MORNING, JUNE 12, 1923.

Tuesday morning will be given up to recreation. There will be golf and tennis at the country clubs and automobile sightseeing. Please apply at the Bureau of Information. Those wishing to enter golf or tennis tournament will please notify Dr. M. H. Walker, Jr., 18 Bank Row, Pittsfield, in advance, stating home club handicap.

TUESDAY AFTERNOON, JUNE 12, 1923.

MEETING OF THE SECTION OF MEDICINE.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Medicine.

Brace W. Paddock, Pittsfield, Chairman.
Francis M. Rackemann, Boston, Secretary.

1. Psychotherapy.
   By Dr. Austen F. Riggs, Stockbridge.
   Discussion opened by Dr. Stanley Cobb, Boston.
2. The Value of Examination of Renal Efficiency for the Diagnosis of Kidney Disease.
   By Dr. Warfield T. Longcope, Baltimore, Md.
   Discussion by Dr. James P. O'Hare, Jamaica Plain (Boston), and W. Richard Ohler, Jamaica Plain (Boston).
3. Focal Infection in Relation to Systemic Disease.
   By Dr. W. Gilman Thompson, New York City.
   Discussion opened by Dr. Everett A. Bates, Springfield.
4. Syphilis with a Negative Wassermann Reaction.
   By Dr. C. Morton Smith, Boston.
   Discussion by Dr. Winford O. Wilder, Springfield, and Dr. Nathan Finkelstein, Pittsfield
5. Diabetes, Insulin, and the General Practitioner.
   By Dr. Elliott P. Joslin, Boston.
   Discussion by Dr. Augustus K. Boom, Adams, and Dr. Reginald Fitz, Boston.

MEETING OF THE SECTION OF SURGERY.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Surgery.

John B. Thomes, Pittsfield, Chairman.
George A. Leland, Jr., Boston, Secretary.

1. Acute Perforations of the Stomach and Duodenum, with Particular Reference to End-Results.
   By Dr. Charles L. Gibson, New York City.
   Discussion by Dr. Homer Gage, Worcester, and Dr. John M. Birnie, Springfield.
2. How the Symptomatology is but the Outward Manifestation of the Pathology in Ectopic Pregnancy.
   By Dr. John Osborn Polak, Brooklyn, N. Y.
   Discussion by Dr. Ernest L. Hunt, Worcester, and Dr. Stephen Rushmore, Boston.

MEETING OF THE SECTION OF HOSPITAL ADMINISTRATION.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Officers of the Section of Hospital Administration.

John J. Dowling, Boston, Chairman.
Edmund W. Wilson, Boston, Secretary.

1. Functions of a Municipal Hospital.
   By Dr. Francis W. Peabody, Boston.
2. Municipal Hospitals from a Trustee's Viewpoint.
   By Dr. Henry S. Rowen, Brighton (Boston).
3. Some Newer Developments in Hospitals.
   By Mr. Charles A. Coolidge, Architect, Boston.

ANNUAL MEETING OF THE SUPERVISING CENSORS.

MAPLEWOOD HOTEL, AT 4 O'CLOCK.

ANNUAL MEETING OF THE COUNCIL.

MAPLEWOOD HOTEL, AT 4.30 O'CLOCK.

Following the meeting of the Council tea will be served to the Fellows, their families, and guests at the hotel, the funds being derived in part from the income of the bequest of the late Benjamin Eddy Cotting. Tea will be served also at the Country Club, to the ladies, at 4 o'clock.

TUESDAY EVENING, JUNE 12, 1923.

THE SHATTUCK LECTURE.

MAPLEWOOD HOTEL, AT 8 O'CLOCK.

Some Peripheral Nerve Problems.
By Dr. Dean Lewis, Chicago, Ill.

After the lecture there will be a reception to the President, a buffet supper, and dancing. All the Fellows and their families are invited.

WEDNESDAY MORNING, JUNE 13, 1923.

MEETING OF THE SECTION OF TUBERCULOSIS.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Tuberculosis.

Edward O. Otis, Boston, Chairman.
Sumner H. Remick, Reading, Secretary.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

1. The General Management.
   By Colonel George E. Bushnell, U. S. A. (Retired), formerly in charge of the U. S. A. Sanatorium, Fort Bayard, New Mexico.
2. The Sanatorium Treatment.
   By Dr. Ernest B. Emerson, Superintendent and Physician-in-Chief, Rutland State Sanatorium.

3. The Home Treatment.
   By Dr. Edgar T. Shields, Field Secretary, National Tuberculosis Association, New York.
4. The Symptomatic Treatment.
   By Dr. Edward O. Otis, Boston.

General discussion opened by Dr. Francis E. O'Brien, Haydenville, Superintendent Hampshire County Sanatorium, and by Dr. Henry Colt, Pittsfield.

MEETING OF THE SECTION OF PEDIATRICS.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Pediatrics.

Alexander C. Eastman, Springfield, Chairman.
J. Herbert Young, Newton, Secretary.

1. Heart Murmurs in Infancy and Childhood.
   By Dr. John Lovett Morse, Boston.
2. The Treatment of Whooping-Cough in Private Practice.
   By Dr. William W. McKibben, Worcester.
3. Factors Governing Gain in Weight in the First Year.
   By Dr. Fred H. Allen, Holyoke, and Dr. Edward P. Bagg, Jr., Holyoke.
4. Intracranial Hemorrhage in the Newborn.
   By Dr. Richard S. Eustis, Boston.

MEETING OF THE SECTION OF OBSTETRICS AND GYNECOLOGY.

MAPLEWOOD HOTEL, AT 9.30 O'CLOCK.

Officers of the Section of Obstetrics and Gynecology.

Charles E. Mongan, Somerville, Chairman.
Frederick C. Irving, Boston, Secretary.

1. The Convulsive Toxemia of Pregnancy and Its Treatment.
   By Dr. Ross McPherson, New York City.
   Discussion by Dr. D. M. Ryan, Ware, Dr. Clifford S. Chapin, Great Barrington, and Dr Edward B. Kellogg, Boston.
2. Round Table Conference.
   How Can the Section of Obstetrics and Gynecology Be Made Most Valuable to the General Practitioner?
   Discussion opened by Dr. Alfred H. Quessy, Fitchburg, Dr. Burton E. Hamilton, West Roxbury (Boston), and Dr. Thomas R Goethals, Brookline.
   General Discussion.

WEDNESDAY NOON, JUNE 13, 1923.

ANNUAL MEETING OF THE SOCIETY.

MAPLEWOOD HOTEL, AT 12 O'CLOCK.

Business of the Annual Meeting.

WEDNESDAY AFTERNOON, JUNE 13, 1923

THE ANNUAL DISCOURSE.

AT 1 O'CLOCK.

The Physical Examination of Apparently Healthy Individuals, Its Importance, Limitations, and Opportunities.
By Dr. Roger I. Lee, Cambridge.

THE ANNUAL DINNER.

MAPLEWOOD HOTEL, AT 2 O'CLOCK.

Tickets for the dinner will be issued at the Bureau of Information, without cost, to all Fellows who have paid their dues.

Fellows desiring to sit together in groups will please send their names to the local chairman of the Committee of Arrangements, Dr. A. P. Merrill, and the proper reservations will be made.

It is necessary that the local chairman of the committee know in advance the approximate number of those who will attend the dinner, therefore a reply post card has been sent out. It is earnestly requested that each Fellow fill out and mail the card as soon as possible.

WEDNESDAY AFTERNOON LATE.

After the dinner there will be further opportunity to play golf and tennis or to do sightseeing in the Berkshires.

MEETINGS OF THE COUNCIL.

The Annual Meeting, Tuesday, June 12, 1923, at the Maplewood Hotel, Pittsfield. Other stated meetings in John Ware Hall, Boston Medical Library, on the first Wednesdays of October and February.

CENSORS' MEETINGS.

The Censors for the several districts will meet for the examination of applicants for fellowship on the first Thursdays of May and November.

The Censors for the Suffolk District will examine applicants residing in that district and also applicants who are non-residents of Massachusetts.

Applicants for fellowship should apply to the Secretary of the District Society of the district in which they reside (have a legal residence), at least one week before the date of a given examination, taking with them their degrees in medicine.

TREASURER'S NOTICE.

Assessments should be paid to District Treasurers, or, in the case of non-residents, to the Treasurer.

Assessments were due January 1. For the convenience of members who have been unable to pay, assessments will be received for the Treasurer at the Annual Meeting.

SECRETARY'S NOTICE.

All communications as to membership, especially changes of residence and address, should be sent to the Secretary, who keeps a constantly corrected official list of the Fellows and their addresses. District Secretaries and Treasurers should true their lists by the official lists of transfers and changes published in the JOURNAL.—Walter L. Burrage, Secretary.

THE JOURNAL.

The BOSTON MEDICAL AND SURGICAL JOURNAL, the official weekly organ of the Society, will be sent only to Fellows who have paid their assessments, and to such Honorary and Retired members as may apply for it. Address communications to the Managing Editor of the JOURNAL, Dr. W. P. Bowers, 126 Massachusetts Avenue, Boston 17.

NOTICE.—If you have not replied to the return postal cards, please do so immediately.

THE BOSTON
Medical and Surgical Journal
Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

For three years WILLIAM H. ROBEY, JR., M.D.
ROGER I. LEE, M.D.
ROBERT B. OSGOOD, M.D.

For two years JAMES S. STONE, M.D.
HORACE D. ARNOLD, M.D.
CHANNING FROTHINGHAM, M.D.

For one year HOMER GAGE, M.D., *Chairman.*
EDWARD C. STREETER, M.D.
EDWARD W. TAYLOR, M.D.

EDITORIAL STAFF.

DAVID L. EDSALL, M.D.
WALTER B. CANNON, M.D.
REID HUNT, M.D.
ROBERT W. LOVETT, M.D.
FRANCIS W. PEABODY, M.D.
JOHN P. SUTHERLAND, M.D.
S. BURT WOLBACH, M.D.
GEORGE R. MINOT, M.D.
FRANK H. LAHEY, M.D.

WALTER P. BOWERS, M.D., *Managing Editor.*

ASSOCIATE EDITORS.

GEORGE G. SMITH, M.D.
WILLIAM B. BREED, M.D.
JOSEPH GARLAND, M.D.

SUBSCRIPTION TERMS: *$6.00 per year in advance, postage paid for the United States, $7.56 per year for all foreign countries belonging to the Postal Union.*

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the printer with galley proof of paper. Upon written request, authors will be furnished free one hundred eight-page reprints, without covers, or the equivalent in pages in articles of greater length.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

FIFTY YEARS' PROGRESS IN HEALTH CONSERVATION.

HYGIENE, which is the foundation of sanitation, is of ancient origin, we read in the address delivered at the United States National Museum by George Martin Kober, Professor of Hygiene at Georgetown University Medical School, and published in a report of the United States Public Health Service.

The Egyptians paid special attention to their food and child welfare, and instituted preventive measures against the invasion of plagues. The ancient Hindus practiced isolation in cases of infectious diseases, and the Mosaic laws instructed the Jews as to personal cleanliness, the selection of food and the isolation of persons with contagious diseases.

Hippocrates expressed his views on fumigation and the local and seasonal influences on sporadic and epidemic diseases, and the Lycurgian laws dealt pointedly with sanitary matters. For 2400 years the Cloaca Maxima has conveyed to the sea the Roman sewage, and many of the aqueducts which, in the reigns of Tiberius and Nero, delivered to Rome over 1400 liters of water per capita per day, still serve their original purpose.

During the Middle Ages sanitation, with most other forms of culture, was in abeyance. The arts of war were chiefly recognized, and filth accumulated within the walled and narrow-streeted towns. All the conditions favored the spread of infectious diseases, and it is not to be wondered at that bubonic plague, appearing in Europe in the fourteenth century (1345-1351), claimed a million lives in Germany, 50,000 in Florence, and twice that number in Venice. England lost one-half its population, and London, then a city of 110,000, buried 50,000 in one cemetery. It has been estimated that the deaths in Europe from this plague totalled 25,000,000, or approximately one-fourth of the world's inhabitants. This was regarded as an evidence of Heaven's wrath, and, as one form of atonement, the passion plays originated. Venice alone viewed the matter scientifically, and for the first time in history, in 1348, appointed three guardians of public health. The rule of 40 days' isolation adopted has given rise to the term quarantine (*quaranta giorni*).

Sanitary conditions, however, were slow to improve, and the town mortality outbalanced the birth rate. In Prussia, during the decade 1751-60, "688 out of every 1000 children born perished before the age of 10, and in 1761, 50 per cent. of the English population died before reaching the age of 20." In 1833, in factory towns like Manchester, the average age of the working classes was only 22 years.

The eighteenth century, during which over 50,000,000 persons in Europe died of smallpox, brought the discovery of vaccination, and the practical elimination of that scourge, except in neglected communities.

Sanitary reform in this country originated in Massachusetts in 1849, following the invasion of cholera, when the Legislature appointed a commission to make a sanitary survey of the state. Louisiana followed with a State Board of Health in 1855, and in 1869 a more comprehensive board was established by Massachusetts, followed in 1870 by California. In 1872 the American Public Health Association was formed, and in the following year the Section on State Medicine of the American Medical Association. In 1878 Congress created a National Board of Health, which died through lack of appropriation, and since 1883 its duties have been discharged by the United States Public Health Service.

It has been estimated that the average length of human life in the sixteenth century was between 18 and 20 years, and at the close of the eighteenth century it was still less than 25 years. At the close of the nineteenth century it was between 45 and 48 years; today, in the United States, it is 56 years, an increase of 15 years since 1870, at about which time the development

of bacteriology and the birth of scientific medicine began. The development of bacteriology and the application of the knowledge gained from animal experimentation are the two factors which may be credited with the increase in the span of human life during the past fifty years.

CONSOLIDATION OF TWO MEDICAL JOURNALS.

Arrangements have been completed whereby the *Pennsylvania State Medical Journal* and the *Delaware State Medical Journal* will unite in one Journal under the name of the *Atlantic Medical Journal*. This new Journal will serve as the official organ of these two State societies.

This coalition will add to the strength of a journal representing two States situated in close proximity and serving a common constituency. Other groups of States have adopted this plan.

New England is especially well situated geographically for the development of a common journal and in time may follow the example set by groups of States in the South, the Northwest, and elsewhere.

PERMITS TO OPERATE X-RAY MACHINES.

In New York all operators of X-ray machines must first obtain a permit from the Health Department.

According to the Weekly Bulletin of the Department of Health, City of New York, the regulation covering the use of these machines is for the purpose of preventing danger of the rays emanating from the operating rooms as well as to all persons and property of other persons and property adjacent or contiguous to or coming in contact with electrical or other current or force or spark generated or incident to the operation and use of the X-ray machine.

The registration of physicians and dentists does not carry with it the right to operate X-ray machines without a permit, in New York City.

Miscellany.

A COMPLIMENTARY DINNER ARRANGED BY THE CAMBRIDGE MEDICAL IMPROVEMENT SOCIETY IN HONOR OF DR. EDMUND H. STEVENS.

In response to an invitation issued by the Cambridge Medical Improvement Society, about 90 friends of Dr. Edmund H. Stevens of Cambridge gathered at the Hotel Somerset, Monday evening, May 28, 1923, for the purpose of tendering congratulations and good wishes to one who for many years served the people of the city of Cambridge as a physician and citizen, and the State of Massachusetts as a representative of the Massachusetts Medical Society in dealing with state affairs.

After the dinner had been enjoyed, Dr. J. P. Nelligan called the meeting to order and paid a glowing tribute to the honored guest, Dr. Edmund H. Stevens, speaking of him as the doctor who had been of great service for many years because of the natural endowment of a sound body and a heart of purest gold.

Dr. Nelligan introduced Dr. E. A. Darling as toastmaster, who tendered to Dr. Stevens his congratulations and spoke of his service as soldier under Grant at Appomattox and as sailor under Farragut at Mobile Bay.

Dr. W. D. Swan responded as one of the earlier house officers of the Cambridge Hospital. He gave a brief history of this hospital, explaining that Dr. Stevens had been a guiding hand and an inspiring mind in its inception and development. He spoke of the early adoption of the aseptic technique and the performance of the first appendectomy in this region.

Dr. E. A. Darling referred to the great interest exhibited by Dr. Morrill Wyman in the inception and creation of the hospital, and explained the results of intensive study relating to ventilation of hospitals which enabled Dr. Wyman to elaborate a scheme whereby downward ventilation through an opening in the floor under each bed was an advance over methods then in use. The plan was in operation in the Cambridge Hospital for some years. It is interesting to note that Dr. Wyman's graduation thesis was on the subject of hospital ventilation and his original manuscript has been returned.

The toastmaster then read letters from Drs. H. P. Walcott, Alfred Worcester, J. Collins Warren, John W. Farlow, William T. Councilman, D. E. Baker and George W. Gay, all expressing regret at being prevented from attending the exercises and referring to Dr. Stevens in terms of respect and affection.

Dr. John W. Bartol, responding for the Massachusetts Medical Society, took as his theme the history of Nestor, who was a sage, a warrior and a councillor of his people, and in thinking of the service rendered to this community and the state, Dr. Stevens might properly be said to have out-Nestored Nestor, both in the quality of work performed and in dealing with the great questions of medical policies.

Dr. F. C. Shattuck, in several anecdotes, told of the personal qualities of Dr. Stevens which explained his success as a practitioner and the influence which he exerted on the medical affairs of the day. He explained that the Cambridge Medical Improvement Society is virtually a child of the Boston Medical Improvement Society and has shown a commendable vitality and

seems to be a more active body than its parent. Dr. Shattuck's long experience as a consultant enabled him to speak in a most interesting way of the prominent physicians of Cambridge, designating Walcott, Wyman and Stevens as a triumvirate in medicine.

In closing, he characterized Dr. Stevens as a man wise in counsel, swift in action, always human.

Truth and Edmund H. Stevens—Edmund H. Stevens and Truth.

Dr. Henry O. Marcy spoke of the early effort to promote good fellowship in the establishing of the custom of regular meetings at the homes of the doctors of Cambridge, thereby removing petty jealousies and promoting good fellowship and in this way building that united spirit which gave to Cambridge high grade medical service. In illustrating the loyalty of the doctors of Cambridge, he reported that out of fifteen that he knew at that time seven served in the Civil War.

Dr. Albert August spoke as a representative of the house officers of the hospital, emphasizing especially the great influence which Dr. Stevens exerted in developing the hospital, the valuable instruction given to the house officers, and the exhibition of tireless energy and punctuality. At the close of his remarks a very fine traveling case, with a complete equipment, was given to Dr. Stevens by the house officers of the Cambridge Hospital.

Dr. Darling said that the reticence of Dr. Stevens made it difficult for his confrères to persuade him to write many papers or make long speeches, but that Dr. Stevens had agreed to write a paper for the society, and presented him.

Dr. Stevens expressed his great pleasure in being privileged to meet his friends, and, although he had planned to write a paper to be presented at a meeting of the society, he had discarded the one first planned and would read one more appropriate to the occasion.

Mr. President, Members of the Cambridge Medical Improvement Society, and Friends:

As I look into the faces of so many of my friends, both old and young, I am quite at a loss for words to express my appreciation of the great honor conferred upon me by your coming here tonight.

I can truly say that it gladdens an old man's heart to have such appreciation shown him. To grow old gracefully is not an easy thing to do, but much of the sting is removed by such a demonstration as I see before me.

I received my degree from Harvard Medical School in 1867.

The majority of men when speaking of conditions existing in the medical schools fifty years ago, have little to say in praise of the instructors of that time.

I feel that the men who were connected with the medical school at the time of my graduation were all excellent instructors, and gave the students every opportunity in their power to gain knowledge.

The following is a list of the men who signed my diploma: D. Humphrey Storer, J. B. Jackson, Henry I. Bowditch, Oliver Wendell Holmes, George C. Shattuck, John Bacon, Henry J. Bigelow, Charles E. Buckingham, Edward H. Clarke, Calvin Ellis, Richard M. Hodges, James C. White.

These men were thoroughly trained and possessed a personality which appealed to the students far more strongly than is apparent in the professors of today, because there are so many teachers that the undergraduates are not so continuously under the influence of any one faculty member.

When I left the medical school I felt that each one of the professors was my personal friend. The treatment received warranted this feeling on my part.

Soon after my graduation from the medical school I went to Deer Island where I spent four most profitable years.

While at the island I was associated with my old friend, Dr. Samuel H. Durgin, who was afterward the chairman of Boston's first Board of Health and who served the city faithfully for many years.

I had an opportunity while there to use what little knowledge I had acquired at the medical school, and gained a great deal more by coming in contact with all kinds of sick people.

What success I may have had in the practice of medicine is largely due to the training I received while in the hospitals at Deer Island.

After my four years' residence at Deer Island I located in Cambridge on the first day of April in the year 1871. At that time Cambridge was divided into sections, each section being quite distinct from the others so far as general interests were concerned. There was Old Cambridge, Cambridgeport, East Cambridge, and North Cambridge. The latter was sparsely settled at that time, but even then gave promise of a more or less rapid growth. I have continued my residence in the north end of the city which has more than trebled in size during the past fifty-two years.

During my long residence in Cambridge many changes have taken place in the medical profession. In 1871 there were only about 40 physicians practising in Cambridge, at that time a city of about 42,000 inhabitants. At the present time Cambridge has a population of nearly 109,000, and the directory of 1922 listed 177 physicians.

Only four of the physicians who were practising in Cambridge at the time I located there

are now living: Drs. Henry P. Walcott, Henry O. Marcy, John L. Hildreth, and James A. Dow. These men have all retired, leaving me the only one actively engaged in practice at the present time. Were it not for the friendliness of the younger men in the profession, I should feel lonesome indeed. As it is, I am trying to keep pace with the procession and not hold it back.

As we all grow old at the same rate, I am doing my best to hold myself in check and give the young men a chance to catch up.

I have always regarded it a piece of good fortune that I located in Cambridge, not only because it has been a good city to live in, but because of the type of men practising medicine in the city and its vicinity. It has been noted from early days in the profession that Cambridge and nearby towns have always stood for the highest type of professional etiquette.

I wish to say something in regard to some of the prominent physicians of my time.

Dr. Morrill Wyman, who was one of the best known and most highly respected physicians in the State, was actively engaged in the practice of medicine in 1871.

It had been my good furtune to meet him on several occasions before coming to Cambridge, and it was partly by his advice that I chose Cambridge as my field of labor and I have never had occasion to regret my choice.

I never knew a wiser physician than Dr. Morrill Wyman. With his broad training, his love of science, and a marvelous power of discernment, he noticed many things which escaped the attention of other men.

Although he knew nothing of bacteriology, he had an almost uncanny knowledge of the causes of diseases. It was a great pleasure to listen as he discoursed upon topics which the medical text-books of his day did not even mention. He always spoke of pneumonia as a toxemia. What was then known as "acute Bright's disease," he contended was only a symptom of some other disease from which the patient was suffering.

I cannot better express my affection and esteem for this great man than in the words of Drs. Councilman, Magrath, and Brinkerhoff, in the dedication to him of a series of their medical papers:

To the memory of

DR. MORRILL WYMAN

A physician of Cambridge, who, as an investigator and practitioner of medicine, united careful observation, sound reasoning, and good judgment. We who have known him personally, and have received inspiration from his words and life, dedicate this series of papers.

Boston, Mass., January 1, 1904.

Dr. Wyman retired from active practice in 1886, being then about 77 years of age, but he continued to see patients in consultation for the next ten years. His later life was an exemplification of his oft-repeated advice to his patients to "grow old gracefully."

Dr. W. W. Wellington, a contemporary of Dr Morrill Wyman, was in practice in Cambridgeport at this time. He was a gentleman of the highest type, an excellent physician, and a most worthy citizen. He continued his practice until he was past 80 years of age and died full of honors.

I cannot allow this occasion to pass without making especial reference to my most esteemed friend, Dr. Henry P. Walcott.

He gave up the practice of medicine quite early, and has devoted many years of his life to public service.

As President of the State Board of Health, which position he filled for many years with great distinction, his administration was characterized by such wisdom and sane judgment that he was looked up to by the whole country as a leading authority in all matters pertaining to public health.

Dr. Henry O. Marcy, who settled in Cambridge at the close of the Civil War, had a large and rapidly growing practice. To him was due the honor of introducing Lister's methods into Boston, where for two years he labored to show the great value of this new discovery before it was adopted by surgeons in the large hospitals. Dr. Marcy later became a celebrated surgeon with an international reputation. He is still living, with a keen interest in everything relating to medicine and surgery.

Among the other prominent physicians in Cambridgeport were Drs. A. P. Clarke, Alfred Holt, A. Carter Webber, and Edward P. Cogswell, the latter graduating from the medical school in the same class with me.

Dr. Anson P. Hooker, a famous son of a famous father, was greatly in evidence in the practice of medicine in East Cambridge. Dr. Albert L. Norris was then living in East Cambridge, but later moved to Cambridgeport, where he continued his practice for many years.

Dr. J. B. Taylor was also living in East Cambridge at this time. He represented the highest type of the family physician. He was the father of our late lamented Dr. F. W. Taylor, and grandfather of Dr. J. H. Taylor, the present secretary of our Cambridge Medical Improvement Society.

Besides Dr. Morrill Wyman, the men in active practice in Old Cambridge were Drs. Henry P. Walcott, J. T. G. Nichols, Charles E. Vaughan, Stephen W. Driver, and John L. Hildreth.

The physicians located in North Cambridge were Dr. James R. Morse, an old-time doctor who came from Vermont; a Dr. Talbot, who was at one time associated with Dr. Morse, and Dr. Fletcher.

There were many other worthy physicians in Cambridge in 1871, but I was not brought in personal contact with them and do not definitely recall them.

Fifty years ago there were a few men in every large community who stood out prominently as physicians. Today this is changed as the general standing of physicians is much higher.

The towns in close proximity to Cambridge had one or more men who were held in high esteem and looked up to as leaders. Dr. Lincoln R. Stone of Newton, who is living at the present time, was a physician of this type. He has a good representative in his son, James R. Stone, a well-known surgeon of Boston.

Alfred Hosmer of Watertown, Richard L. Hodgdon of Arlington, J. M. Harlow of Woburn, Robert Windsor of Winchester, John Sullivan of Malden, and J. W. Currier of Lexington, were all men of high ideals and well known in the profession.

At this time there were two men of great prominence in Middlesex County about whom the physicians of today know little. I refer to Dr. Gilman Kimball and Dr. Walter Burnham, both located in the city of Lowell.

Dr. Kimball was born in New Hampshire in 1804 and graduated from Dartmouth Medical School in 1827. Early in his life he taught surgery in the Vermont Medical School and later was instructor in the same branch at the Berkshire Medical Institute. He was a bold and successful surgeon and one of the first men in New England to operate on ovarian tumors.

Dr. Burnham was born in Vermont in 1808 and graduated from the Vermont University of Medicine in 1829. Dr. Kimball settled in Lowell in 1840. Dr. Burnham located there in 1846.

Dr. Kimball did his first case of ovariotomy in 1850, and Dr. Burnham began to operate a year later.

There was great rivalry between these two men, and while Dr. Burnham did not rank as high in the profession as Dr. Kimball he met with phenomenal success in his surgical work. From 1851 to 1881 he reported 250 cases of ovariotomy, seventy-five per cent. of which recovered.

In 1881, through the courtesy of Dr. Morrill Wyman, it was my good fortune to see Dr. Burnham operate on a case of ovariotomy in the town of Belmont.

It was an exhibition of marvelous skill and daring, for at this time he had but one arm, having lost his left arm a year before, and his only assistant was a nurse who had worked with him for many years.

After witnessing this operation it was easy to understand why he met with such unusual success. His methods were more like modern surgery than anything I had ever seen before.

First he had the patient's abdomen thoroughly washed with soap and water and then again washed off with water that had been boiled. He had a wash boiler full of boiled water and a quart tin dipper that had been boiled, near at hand.

After opening the abdomen and removing a large ovarian cyst, (which he tapped and then drew the sac through a reasonably small incision), he flushed the abdominal cavity with quarts of boiled water.

His reply, when asked why he did this, was that he had "always found it a —— good thing to do."

This patient made an uneventful recovery.

I mention these two surgeons because I think it is well for us to keep in mind the men who did such excellent pioneer work in this branch of surgery, and we hear so little about them today.

I do not recall just the date when Dr. John Homans, whose work is so well known to Boston physicians today, began to do ovariotomy, but I well remember that he was considered so rash it was a question whether he was a suitable man to serve as surgeon at the Massachusetts General Hospital; but notwithstanding this conservative attitude of the appointing board, he was later a member of the staff of this hospital.

To persevere as John Homans did at a time when the mortality was necessarily high, showed courage of the highest type.

Men in these days of modern surgery do not realize the obstacles that the pioneers had to overcome, nor how violent was the prejudice against all major operations at that time.

The profession today owes an inestimable debt to the brave men who *did* persevere in the face of great discouragement.

In the year 1886 the first operation for appendicitis was performed in this vicinity by Dr. Cutler of Waltham. Dr. Maurice Richardson very soon began to report his cases.

In these reports Dr. Richardson showed a courage and honesty which is very commendable, for he gave full reports of his fatal, as well as successful cases.

Nobody ever questioned the reports of Maurice Richardson, for he possessed the courage to publish the absolute truth of the results of his operations.

On the first day of May, 1886, the Cambridge Hospital was opened to receive patients.

At this time there had been a pretty general acceptance throughout New England of the methods of Lister, and the opening of the hospital gave Cambridge men an opportunity to do surgical work under favorable conditions. Many physicians availed themselves of this opportunity, and I am happy to say that the hospital today stands in class A, recognized by the American College of Surgeons, among hospitals of one hundred beds.

Dr. W. W. Keen in his address before the

Boston Surgical Society last year gave such an excellent and graphic account of the advances made in surgery during the past fifty years that I am sure I can add nothing to what he said.

It is a great satisfaction to have lived at a time when such progress was going on. Dr. Keen graduated but five years ahead of me, so we have both observed the same great changes.

It is a well-known fact that as people grow older they derive much pleasure in reminiscing, and not a little from the privilege of criticising their juniors.

I have had abundant opportunities to observe the work of many of the younger men in our city, as well as in the surrounding towns, and feel sure that they are keeping up the traditions of their seniors in a way of which they may well feel proud.

One of the most distressing features which we older men note is the splitting up of medicine into so many specialties. My observation leads me to feel that this custom has reached a point where there will soon be a change, and the general practitioner will be more and more in demand.

Greatly as we appreciate the work done by our specialists, many feel that this development of the practice of medicine is being carried to a point that is sure to bring a reaction.

I question whether the amount of time given to various laboratory methods is calculated to cultivate a man's powers of observation and give him the training required to make the best sort of practitioner.

The older men who are not so saturated with the scientific side of medicine sometimes fear that the art of the practice of medicine is being sacrificed and neglected. But this delicate subject is open to discussion and I will not dwell upon it further.

I have always had a great interest and warm place in my heart for men in the profession who are younger than myself, and I sincerely trust that I may continue to hold their esteem and regard.

NOTES FROM THE BOSTON MEDICAL LIBRARY.

The Library has recently received two new funds, the Harriet K. Hunt Fund, the income of which is to be used for the purchase of books, and the George Brune Shattuck Fund, the income to be used for general purposes.

A large lot of new German books has come in from Berlin, among which the following are worthy of notice:

Abderhalden, E. Lehrbuch der physiologischen Chemie. Fifth edition, newly revised, Pt. 1. 8°. 735 p. Berlin, 1923.

Dietlen, H. Herz und Gefässe im Róntgenbild. 8°. 455 p. Leipzig, 1923. With fifteen pages of bibliography.

Ebstein, E. Ärzte-Memoiren aus vier Jahrhunderten. 8°. 406 p. Berlin, 1923. Containing 50 autobiographies of eminent German physicians, from Theophrast Bombast von Hohenheim (1493-1541) to Paul Ehrlich (1854-1915). With sixteen pages of bibliography.

Fiebiger, J. Die tierischen Parasiten der Haus- und Nutztiere, sowie des Menschen. Second edition, enlarged and revised. 8°. 439 p. Wien, 1923. An excellent monograph containing an important systematic list of parasites.

Grashey, R. Atlas typischer Röntgenbilder vom normalen Menschen. 8°. 236 p. München, 1923.

Handbuch der Neurologie. Hrsg. von O. Bumke und O. Förster. Ergänzungsband. Pt. 1. 8°. 492 p. Berlin, 1923. This continuation of Lewdandowsky's Handbuch deals particularly with hysteria and the war-neuroses.

Kranz, P., and Falck, K. Alveolar-Pyorrhöe. 8°. 172 p. Berlin, 1922.

Landau, E. Anatomie des Grosshirns. Formanalytische Untersuchungen. 4°. 146 p. Bern, 1923. An important contribution to the anatomy of the brain.

Lewin, L. Die Pfeilgifte. 8°. 517 p. Leipzig, 1923. An exhaustive monograph on arrow and dart poisons, by an eminent toxicologist.

Oppenheim, H. Lehrbuch der Nervenkrankheiten. Seventh edition, revised and enlarged. V. 1. 8°. 923 p. Berlin, 1923. A new edition of the standard German textbook on nervous diseases.

Pulay, E. Stoffwechsel und Haut. 8°. 240 p. Berlin, 1923. A concise monograph on skin diseases of metabolic origin.

Schindler, R. Lehrbuch und Atlas der Gastroskopie. 8°. 132 p. München, 1923. Illustrated with 20 fine lithographic plates in natural colors.

Studien zur Geschichte der Medizin. Hrsg. von Karl Sudhoff. Pt. 13. Studien und Texte zur frühmittelalterlichen Rezeptliteratur von Henry E. Sigerist. 4°. 220 p. Leipzig, 1923.

Verzeichnis der in der Deutschen Bücherei zu Leipzig vorhandenen laufenden Zeitschriften aus den Gebieten der Naturwissenschaften und Medizin. 12°. 120 p. Leipzig, 1922. An important list of all current German periodicals and serials on medicine and the natural sciences.

The Library has obtained a copy of the first edition of Gilbertus Anglicus, "Compendium medicinæ," 1510. This work is one of the three important medieval English classical texts on medicine and contains the first description of

leprosy, and refers to smallpox as a contagious disease, a notion which was refuted by many later authorities. The two other classical texts are the "Lilium medicinæ" of Bernard de Gordon, 1486, and the "Rosa Anglica" of John of Gaddesden, 1492, both of which are in the Library.

ANNUAL MEETING OF THE NEW ENGLAND MEDICAL FEDERATION OF EXAMINING AND LICENSING BOARDS.

This meeting was held in the State House, Boston, Mass., May 25, 1923. A paper was read by W. P. Bowers, M.D., under the subject of "Some Matters Relating to the Registration of the Practitioners of the Cults."

After a general discussion of affairs relating to the work of the Boards, the business session was conducted. The officers for the ensuing year are: President, Dr. B. U. Richards of Rhode Island; Vice-President, Dr. G. H. Janes of Massachusetts; Secretary, Dr. S. H. Calderwood of Massachusetts. A committee was appointed to consider laws relating to registration, to report at the next annual meeting.

The members of this committee are: Dr. Norman M. MacLeod, Rhode Island; Dr. S. H. Calderwood, Massachusetts; Dr. Adam P. Leighton, Maine; Dr. W. Scott Ney, Vermont; Dr. Charles A. Tuttle, Connecticut; Dr. Charles Duncan, New Hampshire.

The Massachusetts Board entertained the members of the Federation at dinner at Hotel Lenox.

THE AMERICAN CLIMATOLOGICAL AND CLINICAL ASSOCIATION.

On May 23, 24 and 25, the fortieth annual meeting of the American Climatological and Clinical Association was held at Niagara Falls, Ontario. About 75 members were present, representing the far West and South as well as the nearer sections, and a majority of States in this country. Among the Massachusetts members present were Dr. E. O. Otis, Dr. N. K. Wood, Dr. Cleaveland Floyd, Dr. John B. Hawes, 2nd, of Boston, and Dr. A. K. Stone of Framingham. Dr. Hawes presented a paper on "Chronic Bronchitis." The program was a most interesting one.

INCREASING VIRULENCE OF SMALLPOX.

DURING 1922, the case-fatality rate of smallpox, or the number of deaths per 100 cases, was *five* times the figure for 1921! Among 9936 cases reported in 276 cities in the United States and Canada, 495 deaths occurred, or five per cent. of the total cases. In 1921, only 1 per cent. of the 31,489 cases died. The decline in the number of cases may be only a casual circumstance; the lesson to be drawn from the records of the year is that smallpox in a virulent death-dealing form has entrenched itself in recent years among the American and Canadian populations. No one can now tell when, where, or to what extent this killing form of the disease will next make its appearance. The wide acceptance of the false teachings of the anti-vaccinationists and the indifference of the American population to the continued and vehement warnings of its public health officials have prepared tinder for what may well become a catastrophe of the first order. At last, we can see fairly clearly where the two national sins of tolerance of scientific error and of drift are leading us.

Interstate and intercity transportation afford ready means for the spread of virulent smallpox infection from the Western areas, where it has recently prevailed, to all other parts of the North American continent. In Kansas City, Missouri, the type of the prevailing disease resulted in death in 46 per cent. of the cases; in Kansas City, Kansas, in 42 per cent.; in Denver, Colorado, in 31 per cent., and in Moberly, Missouri, in 39 per cent. of the cases. Chicago showed a case-fatality rate of 16 per cent.; Tucson, Arizona, 20 per cent.; Muskegon, Michigan, 38 per cent., and Okmulgee, Oklahoma, a rate of 85 per cent. What is there to prevent the spread of this type of the disease to unprotected communities within easy and frequent rail contact with these local areas? Only the wholesale vaccination of unprotected populations.

There is small comfort in the reduction in the number of smallpox cases from 31,489 in 1921 to 9936 in 1922, when at the same time the actual number of deaths increased. This may be only a temporary lull preceding an outburst of a virulent type of the disease. The only certain protection for the whole of the American population is through effective vaccination in accordance with standards prescribed by the United States Public Health Service and by the state and municipal departments of health. Systematic vaccination of all children, and the re-vaccination of adults, will do much to prevent the further extension of smallpox in its present death-dealing form. Vaccination will save lives, prevent the permanent disfigurement and maiming of millions of our people, and the disruption of commercial and industrial affairs. The press and every other facility for teaching the lesson of last year's smallpox record should support the effort of federal, state and local officials to protect America from a threatened danger.

In the following table we show the facts re-

ported to us by health officials and registrars of 276 cities in the United States and Canada:

SMALLPOX CASES AND DEATHS, AMERICAN AND CANADIAN CITIES, 1920 TO 1922.

Area.	Cases.			Deaths.			Deaths Per 100 Cases.		
	1922.	1921.	1920.	1922.	1921.	1920.	1922.	1921.	1920.
Total Cities (276)*	9,936	31,489	35,146	495	313	204	5.0	1.0	.6
In United States (247)	9,533	30,026	32,593	492	310	188	5.2	1.0	.6
In Canada (29)	403	1,463	2,553	3	3	16	.7	.2	.6
Special Cities	2,844	7,289	6,920	477	247	15	16.8	3.4	.2
Tucson, Ariz.	233	45	6	46	0	0	19.7	0	0
Los Angeles, Calif.	78	240	292	5	0	0	6.4	0	0
Denver, Colo.	793	924	953	248	37	1	31.3	4.0	.1
Bridgeport, Conn.	101	5	0	3	0	0	3.0	0	0
Chicago, Ill.	96	246	154	15	4	1	15.6	1.6	.6
Kansas City, Kan.	78	243	86	33	15	0	42.3	6.2	0
Lansing, Mich.	1,227	4,512	4,818	17	12	11	1.4	.3	.2
Muskegon, Mich.	24	17	31	9	0	0	37.5	0	0
Kansas City, Mo.	136	943	514	63	160	2	46.3	17.0	.4
Moberly, Mo.	28	63	66	11	4	0	39.3	6.3	0
Okmulgee, Okla.	20	50	0	17	15	0	85.0	30.0	0
Shawnee, Okla.†	30	1	0	10	0	0	33.3	0	0

*Total cities with complete reports for three years.
†Total for Shawnee, and for Pottawatomie County.

—Statistical Bulletin, Metropolitan Life Insurance.

FIFTY-TWO AND ONE-HALF MILLIONS PAID IN DEATH CLAIMS TO METROPOLITAN BENEFICIARIES DURING 1922.

THE Metropolitan Life Insurance Company paid in death claims during 1922 to beneficiaries more than $52,500,000. About 70 per cent. of this amount was disbursed on account of causes of death in the preventable or postponable class. The volume of claim payments for this group of diseases indicates the extent of the interest of the life insurance companies in the promotion of public health and other measures in preventive medicine directed at the control of suppressible disease.

More than $6,700,000 was paid on account of tuberculosis. This amount, while larger than that for any other disease or condition, was only slightly greater than the claim payments for heart disease ($6,659,000). In 1921, claim payments for all forms of tuberculosis amounted to $6,446,430, and for heart disease $5,513,000. Beginning with 1923, heart disease will, in all probability, lead the list of causes of death for claim disbursements as well as for deaths. For the three principal cardiovascular-renal diseases (heart disease, chronic nephritis and cerebral hemorrhage-apoplexy) the claim payments during 1922 were $13,953,000, or 27 per cent. of the total, as compared with $11,789,000 in 1921. The ranking importance of these diseases and conditions in the list of causes of death emphasizes the need for careful study of the underlying causative factors and for the development of measures which give promise of preventing injury to cardiovascular-renal tissue. The reduced prevalence of the preventable infectious diseases brings into relief the problem of controlling the chronic, disabling diseases of the cardiovascular-renal tract. Each year heart disease, chronic nephritis, cerebral hemorrhage, and arteriosclerosis assume a more prominent position in the mortality lists by reason of the success of public health agencies in reducing mortality from diseases amenable to control in the present state of sanitary knowledge.

Influenza and pneumonia, combined, required the disbursement of $5,126,000, or 10 per cent. of the total for the year. Early in 1922, there was a sharp outbreak of influenza, with its complicating pneumonias. The 1922 claim payments for influenza and pneumonias were about $1,500,000 in excess of the record for 1921.

Accidents accounted for an expenditure of $4,753,000 during the year, an increase of $1,143,000 over the record for 1921. For automobile accidents, the claim payments totaled $867,000; in 1921, the amounts disbursed for this cause totaled $694,226. There were increases also for accidental drowning, traumatism by fall, and railroad accidents. Suicides occasioned the payment of $1,030,000. The 1922 record, for the first time in the Company's history, exceeded $1,000,000 for this particular cause of death. In 1921, $881,000 was disbursed on suicide claims. Homicides resulted in the payment of $609,341, an amount somewhere in excess of the 1921 figures ($534,800).

Claim payments on cancer deaths were made in the amount of $4,630,000, a figure only slightly in excess of disbursements for 1921 ($4,249,000).

Typhoid fever is becoming of less importance with each succeeding year: in 1922, the Company paid $397,000 in typhoid claims, as compared with $487,000 in 1921.

Another group of causes of death for the first time in the million-dollar class are the puerperal

diseases and conditions. In 1922, claim payments on this account amounted to $1,013,000, and in 1921 to $947,954.

These figures show the extent to which the several preventable or postponable causes of death occasion claim payments among American and Canadian policy holders. Of course, these facts are only slightly indicative of the serious monetary losses suffered by the populations of the two countries by reason of mortality from a group of conditions which are subject to control by modern public health procedures. The actual losses to the community are incalculable. The death of an American or Canadian bread-winner means a broken family; it means the curtailment of a life still full of promise for community service; it implies that the responsibility for the education of children must be transferred to the widow or other family members. The average amount paid in life insurance claims is still far below the capitalized earning power of the breadwinner. The ideal for American and Canadian insurance institutions is to provide a maximum amount of coverage for the family, so that when death of the wage-earner occurs, unavoidably, the family may continue its function of providing support for mothers and their children. It is for this reason that the life insurance companies have committed themselves to the encouragement of efforts which lead to life conservation; for fewer deaths mean fewer broken families and lower net costs for insurance.

AMOUNTS DISBURSED ON ACCOUNT OF DEATHS FROM SPECIFIED DISEASES AND CONDITIONS — ENTIRE EXPERIENCE OF METROPOLITAN LIFE INSURANCE COMPANY, PREMIUM-PAYING BUSINESS, 1922.

	Amount.	Per Cent. of Total.
All causes of death	$51,390,649	100.0
Typhoid fever	396,873	.8
Influenza and pneumonia	5,125,868	10.0
Influenza	1,391,568	2.7
Pneumonia—all forms	3,734,300	7.3
Tuberculosis—all forms	6,729,575	13.1
Tuberculosis of respiratory system	6,270,782	12.2
Cancer—all forms	4,629,568	9.0
Cerebral hemorrhage—apoplexy	3,468,304	6.7
Diseases of the heart	6,658,505	13.0
Chronic nephritis	3,826,252	7.4
Puerperal state	1,013,418	2.0
Total external causes	6,396,598	12.4
Suicides	1,030,007	2.0
Homicides	609,341	1.2
Accidents	4,752,778	9.2
Accidental drowning	524,824	1.0
Traumatism by fall	473,813	.9
Railroad accidents	419,865	.8
Automobile accidents	866,556	1.7
Other accidents	2,467,720	4.8
All other causes of death	13,145,688	25.6

—Bulletin of the Metropolitan Life Insurance Company, February, 1923.

FURTHER FACTS ON BODY-WEIGHT AND LONGEVITY.

In the *Statistical Bulletin* for November, 1922, we referred in general terms to the life insurance mortality experience on risks who are under or over the average weight for height and age. In the present note, we shall consider the question of *optimum weight*, that is, that weight in relation to height and age with which the most favorable mortality experience is associated.

A distinction must first be made between the optimum weight and the average weight. In the past, the average has often been assumed to be the best weight, and tables of averages have been very widely circulated and used as guides by physicians, nutrition and clinic workers and others concerned with the health of children and adults. In this way, there sprang up the general assumption that deviation from the average weight was undesirable and indicated trouble. Children who were as little as 10 per cent. below the average have been considered malnourished, and adults who were 20 per cent. or more above or below the average have been looked upon as impaired more or less seriously. We now know that such assumptions about the normality of the average weight are erroneous. In fact, it can be shown that the most favorable mortality experience is often found among risks whose weights are considerably below or above the averages for their height and age.

At ages under 30 years, the lowest mortality rates among insured persons are found in risks whose weights are above average. An excess of about 10 pounds in weight above the average produces the most favorable mortality rates between the ages of 20 and 24 years. This excess tapers off until about age 30, where the most favorable mortality is found among persons of approximately average weight. After age 30, the more favorable mortality rates are found among persons whose weights are below average. The amount below average increases with advancing age, and at age 50, individuals appear to be at their best when their weight is as much as 30 to 40 pounds below the average.

It seems clear, therefore, that for persons beyond 30, underweight is distinctly an advantage so far as a favorable prospect of mortality is concerned. It is erroneous to suppose that weight should increase with age, as we have been led to believe by the tables for average weights. This increase with advancing age is, of course, a very common occurrence, but there is every indication that it is a disadvantage and should be carefully avoided. The public health movement in its attack upon the diseases of adult and later life will do well to bear this fact in mind.

The body-weight of persons in adult and later life gives a fair indication of the amount of work which is thrown upon the digestive, circu-

latory and excretory systems. As men grow older, the difficulties of normal functioning of these systems increase with the accumulation of impairments. At the same time, persons as they advance in age seem to grow more inclined to take in more food, especially proteins and fats, and less inclined to indulge in wholesome exercise. This has a tendency to place more and more of a strain upon the food utilization machinery and, consequently, to hasten the breakdown of the organs concerned in these processes. A realization of these facts on the part of the public would lead, no doubt, to marked changes in habits of diet and exercise and to an amelioration of conditions which today lead to so much mortality from diseases of the heart, blood vessels and kidneys. There is abundant clinical evidence to prove that through the restriction of diet and the encouragement of exercise in adults the conditions premonitory of organic impairment and eventual break-down of the circulatory and excretory systems have been averted. These facts from life insurance records only tend to reinforce what hygienists have been advocating for years.—Bulletin of the Metropolitan Life Insurance Company, March, 1923.

CARBON MONOXIDE POISONING.

Through investigations conducted by government technologists' methods of detecting carbon monoxide, most insidious and deadly of poisonous gases, have been greatly simplified.

Secretary of the Interior Work made a public announcement to this effect today and through a letter informed 700 industrial physicians and surgeons throughout the country of this new discovery.

For some time the Bureau of Mines of the Interior Department has been conducting research work with the result that means have been found by which it is possible to discover within 3 minutes the extent that a person has been affected by carbon monoxide gas through the extent of poison saturation in the blood. Formerly it took approximately from 24 to 48 hours before diagnosis could be made of such cases either in hospitals or well-equipped laboratories, with the services of a skilled organic chemist. The test is effected through a simple and inexpensive instrument which may be carried in the pocket and which requires no special training for its operation.

Many human lives are expected to be saved by the general adoption of this mode of finding gas poisoning, particularly in the mining industry as well as other fields where dreaded gases are a menace. With this quick method of diagnosing it is possible to promptly institute the proper emergency treatment.

Carbon monoxide is the universal industrial poison gas and manifests itself at mine explosions and fires, combustion of explosives in the atmosphere around coke ovens, coal gas, water gas, and producer-gas plants as well as in the exhaust gases of automobile engines, improperly constructed and operated kitchen gas ranges, and in smoke from burning buildings.

Because of possible exposure of citizens in all walks of life sooner or later to its deadly influence the new instrument for detecting it in the blood is expected to be in universal use among the physicians within the near future. Symptoms of carbon monoxide poisoning consists of headache, dizziness, weakness in the legs, increased respiration at first which becomes irregular and depressed, finally resulting in collapse, unconsciousness and possibly death.

Along with the letter sent today to 700 industrial physicians of the country was a report of the investigations of the Department's Bureau of Mines giving detailed information of the dangers of carbon monoxide poisoning and describing the latest discovery for detecting it.

PREVENTION OF SIMPLE GOITER.

C. P. Kimball, M.D., director of the Cleveland Clinic, has written in the *American Journal of Public Health*, Vol. xiii, No. 2, February, 1923, on the prevention of simple goiter by iodine ingestion.

About 10,000 girls were examined during three years in the Akron schools, and about half of them elected to take the prophylactic dose of 3 grains of sodium iodide in the drinking water once each day for two weeks in the spring and fall. Not a single normal girl of those taking the prophylactic dose developed thyroid enlargement or goiter, although in the control series 27.6 per cent. of those without goiter in the beginning developed goiter.

This year, the author reports, the schools in certain towns are using chocolate tablets, each containing 10 milligrams of iodine in the form of an organic iodide.

He concludes that in the endemic goiter districts every girl during adolescence and every woman during pregnancy should keep her thyroid saturated with iodine.

As regards the boys, goiter is at least six times more frequent in girls than in boys, and the further statement is made that a large majority of goiters in boys are congenital and could be prevented by the administration of iodine to the mother during pregnancy.

HEALTH COMMITTEE OF THE LEAGUE OF NATIONS.

The Health Committee of the League of Nations, at its fifth session, held at Geneva, January 8-13, 1923, considered a suggestion

from the authorities at Singapore, relative to beri-beri. This suggestion was that a local international agreement might impose a differential duty on various kinds of rice in order to deter the coolies from eating the highly milled variety, according to a report of the United States Public Health Service.

Professor Madsden, director of the State Serum Institute at Copenhagen, chairman of the League of Nations Health Committee, presented a report on the standardization of sera and serological tests. The subcommittee on antidiphtheritic and antitetanic sera has approved the resolutions adopted at the serological conference held at Genoa in September, 1922, and the standard of the diphtheria antitoxin has been accepted, and an international unit for the tetanus serum adopted in principle.

A resolution concerning the control of the production of opium was adopted; the opinion was declared that the legitimate needs of a country are its needs exclusively medical and scientific, and that it will be necessary to control the delivery of these products by the centers of production.

The subject of the sanitary control of traffic on waterways was discussed, and a resolution adopted.

ABOLITION OF COCAINE.

The following communication appeared in The London *Times* of March 24. The authors, Sir W. M. Bayliss and Dr. C. W. Saleeby, are among the best known medical authorities in Great Britain. This letter is of interest in this country as showing the attitude of physicians in England toward the narcotic situation there and particularly to cocaine. It is also of interest to note that credit is given to American research for the discovery of a safe substitute for cocaine.

To the Editor of the "Times."

"We submit that the abolition of the use of cocaine by international action is the only effective means of ending the evils to which this drug gives rise, and this is now feasible without detriment to any department of surgical practice.

The failure, everywhere, of all past or present methods of control is acknowledged. One of us has recently observed, in Montreal, the futility of the combined efforts of the police, the health authorities, and the Customs officers, and he has returned to Europe to find similar failure alike in this country and in France. Montreal, it may be noted, is the headquarters for the illicit distribution of the drug in North America. It is evident, and for evident reasons, that so long as the drug is manufactured it will be misused. In the light of the experience of other countries, we are entirely sceptical of the success of the new legislation proposed by the Home Office.

The Committee on the Use of Cocaine in Dentistry reported in 1917 (Cd. 8489), suggesting further restrictive legislation. One of the present writers, serving on that committee, did not sign the report, but appended a memorandum in which the view was expressed that, according to the evidence of leading dental surgeons, cocaine was no longer needed in dentistry, completely effective substitutes, such as procaine, being available.

A new synthetic substitute, known for short as 'butyn' has now been prepared in Chicago, and tested widely with very good results. Like procaine, it has no action on the central nervous system. A highly favorable report on its use in ophthalmic practice appeared in the *British Medical Journal* for January 13 last, Its introduction completes the argument advanced in 1917.

International action should, therefore, be taken to end the present manufacture of cocaine in Germany, Switzerland or elsewhere, and the cultivation of the coca plant in Peru, Java, Bolivia, and other countries. The best instrument for such action, given an instructed and active public opinion in the various countries concerned, is the Opium Committee of the League of Nations. Though neither the United States nor Germany is as yet a member of the League, both of these countries are represented on the Opium Committee. We urge that our government should give full and cogent instructions in this sense to Sir Malcolm Delevigne, the British representative on that committee, prior to its next meeting in May. This, we are convinced, is the only way with cocaine.

We are, Sir, yours,

W. M. Bayliss,
C. W. Saleeby."

WEIGHT AND HEIGHT AS AN INDEX OF NUTRITION.

Clark, Sydenstricker and Collins, reporting for the United States Public Health Service on the weight and height measurements of 9973 children as an index of nutrition, conclude that, although on the average the children of poorer nutrition weigh less than those of better nutrition, weight alone does not seem to be sufficient for determining the nutrition of a given child. In order to pick out individual cases of poor nutrition, a physical examination by a trained physician should supplement physical measurements. They find also that girls show a consistently higher percentage of underweight and a consistently higher percentage of overweight than boys.

News Items.

REMOVES TO WORCESTER, MASS.—Dr. A. Eugene Messier has completed a twenty-one months' service at the Brooklyn Eye and Ear Hospital, and is now located at 303 Park Building, Worcester, Mass. He will devote himself to eye, ear, nose and throat work.

BOSTON DISPENSARY.—Dr. George H. Adams, chief of the Boston Station of the United States Department of Agriculture, Bureau of Chemistry, gave a very interesting address before the staff of the Boston Dispensary at its regular monthly luncheon meeting on May 31. His subject was "The Enforcement of the Pure Food and Drug Act."

THE LAWRENCE MEDICAL CLUB.—The monthly meeting of the club was held Monday evening, May 28, with V. A. Reed, M.D., at the Methuen Tavern, Methuen. Chairman for the evening, A. L. Siskind, M.D. Subject: "Allergy in General in Reference to Its Clinical Importance to Infancy and Childhood," H. J. Stewart, M.D., Boston.

OFFICERS OF SECTION ON PSYCHIATRIC SOCIAL WORK OF THE AMERICAN ASSOCIATION OF HOSPITAL SOCIAL WORKERS.—The officers of the new Section on Psychiatric Social Work of the American Association of Hospital Social Workers are as follows: Mary C. Jarrett, president, Boston; Mary Ferguson, vice-president, Philadelphia; Maida H. Solomon, secretary-treasurer, Boston. Other members of the executive committee are: Marie Donohoe, Boston; Cornelia Hopkins, Chicago; Susie Lyons, Boston; Martha Strong, New York.

Inquiries of all kinds may be addressed to the secretary, Mrs. H. C. Solomon, 74 Fenwood Road, Boston, Mass.

WEEK'S DEATH RATE IN BOSTON.—During the week ending May 19, 1923, the number of deaths reported was 204, against 198 last year, with a rate of 13.81. There were 28 deaths under one year of age, against 23 last year. The number of cases of principal reportable diseases were: Diphtheria, 55; scarlet fever, 87; measles, 278; whooping cough, 42; typhoid fever, 2; tuberculosis, 40. Included in the above were the following cases of non-residents: Diphtheria, 1; scarlet fever, 10; measles, 1; typhoid fever, 1; tuberculosis, 6. Total deaths from these diseases were: Diphtheria, 1; scarlet fever, 2; whooping cough, 3; tuberculosis, 6. Included in the above were the following cases of non-residents: Tuberculosis, 1.

The Massachusetts Medical Society.

COUNCILORS, 1923-24.

ELECTED BY THE DISTRICT MEDICAL SOCIETIES AT THEIR ANNUAL MEETINGS, APRIL 15 TO MAY 15, 1923.

NOTE.—The initials M. N. C., following the name of a councilor, indicate that he is a member of the Nominating Committee. V.P. indicates that a member is a councilor by virtue of his office as president of a district society, and so vice-president of the general society. C. indicates that he is chairman of a Standing Committee. Ex-P. indicates ex-President.

BARNSTABLE,
H. D. Handy, Harwich, V.P.
W. D. Kinney, Osterville, M.N.C.
E. S. Osborne, West Dennis.

BERKSHIRE,
Henry Colt, Pittsfield, V.P.
A. P. Merrill, Pittsfield.
B. W. Paddock, Pittsfield.
P. J. Sullivan, Dalton, M.N.C.

BRISTOL NORTH,
W. O. Hewitt, Attleborough, V.P.
W. H. Allen, Mansfield.
Sumner Coolidge, Middleborough.
F. A. Hubbard, Taunton, M.N.C.

BRISTOL SOUTH,
R. B. Butler, Fall River, V.P.
E. F. Cody, New Bedford, M.N.C.
A. I. Connell, Fall River.
E. F. Curry, Fall River.
A. B. Cushman, South Dartmouth.
D. J. Fennelly, Fall River.
C. J. Leary, New Bedford.
W. A. Nield, New Bedford.

ESSEX NORTH,
J. J. Bartley, Lawrence, V.P.
R. V. Baketel, Methuen.
J. Forrest Burnham, Lawrence.
F. H. Coffin, Haverhill.
W. W. Ferris, Haverhill.
T. R. Healy, Newburyport, M.N.C.
A. M. Hubbell, Haverhill.
G. E. Kurth, Lawrence.
W. D. Walker, Andover.

ESSEX SOUTH,
S. W. Mooring, Gloucester, V.P.
F. W. Baldwin, Danvers, M.N.C.
J. F. Donaldson, Salem.
H. K. Foster, Peabody.
W. T. Hopkins, Lynn.
P. P. Johnson, Beverly.
J. F. Jordan, Peabody.
G. M. Kline, Beverly.
W. G. Phippen, Salem.
A. N. Sargent, Salem.
R. E. Stone, Beverly.

FRANKLIN,
H. A. Suitor, South Deerfield, V.P.
L. P. Croft, Greenfield,
G. P. Twitchell, Greenfield, M.N.C.

HAMPDEN,
R. S. Benner, Springfield, V.P.
E. P. Bagg, Jr., Holyoke.
L. D. Chapin, Springfield.
M. D. Chisholm, Westfield.
A. C. Eastman, Springfield.
F. L. Everett, Springfield.
M. B. Hodskins, Palmer.
F. S. Hopkins, Springfield.
G. H. Janes, Westfield, M.N.C.
I. N. Kilburn, Springfield.
E. A. Knowlton, Holyoke.
R. B. Ober, Springfield.
A. G. Rice, Springfield.

HAMPSHIRE,
J. E. Hayes, Northampton, V.P.
A. J. Bonneville, Hatfield, M.N.C.
C. T. Cobb, Northampton.
F. E. Dow, Northampton.
A. G. Minshall, Northampton.

MIDDLESEX EAST,
Robert Chalmers, Woburn, V.P.
M. A. Cummings, Winchester.
Philip Hammond, Winchester.
C. R. Henderson, Reading.
C. E. Ordway, Winchester, M.N.C.

MIDDLESEX NORTH,
J. B. O'Connor, Lowell, V.P.
W. B. Jackson, Lowell.
J. H. Lambert, Lowell.
G. A. Leahey, Lowell.
J. A. Mehan, Lowell, M.N.C.
M. A. Tighe, Lowell.
E. J. Welch, Lowell.

MIDDLESEX SOUTH,
E. A. Darling, Cambridge, V.P.
E. A. Andrews, Newton Center.
E. H. Bigelow, Framingham Center, C.
A. H. Blake, West Somerville.
F. B. M. Cady, Cambridge.
C. O. Chase, Watertown.
F. G. Curtis, Newton.
J. E. Dodd, Framingham.
John Duff, Charlestown.
W. E. Fernald, Waverley.
I. J. Fisher, West Newton,
C. B. Fuller, Waltham.
F. W. Gay, Malden.
G. W. Gay, Chestnut Hill, Ex-P.
F. J. Goodridge, Cambridge.
C. E. Hills, South Natick.
L. H. Jack, West Newton.
H. J. Keaney, Everett.
S. R. Lancaster, Cambridge.
S. F. McKeen, Allston.
Edward Mellus, Newton.
C. E. Mongan, Somerville, V.P.
C. F. Painter, Newton, C.
W. A. Putnam, Cambridge.
W. D. Ruston, West Somerville.
J. W. Sever, Cambridge.
F. G. Smith, Somerville.
C. H. Staples, Malden.
E. H. Stevens, Cambridge, M.N.C.
A. K. Stone, Framingham Center, Tr.
Fresenius Van Nuys, Weston.
H. P. Walcott, Cambridge, Ex-P.
H. R. Webb, Arlington.
G. L. West, Newton Center.
W. S. Whittemore, Cambridge.
Alfred Worcester, Waltham, Ex-P.

NORFOLK,
W. W. Howell, West Roxbury, V.P.
E. H. Baxter, Hyde Park.
D. N. Blakely, Brookline, M.N.C.
H. K. Boutwell, Brookline.
W. L. Burrage, Brookline, Secretary.
J. A. Ceconi, Dorchester.
D. G. Eldridge, Dorchester.
J. E. Fish, Canton.
A. N. Foster, Dorchester.
G. H. Francis, Brookline.
Maurice Gerstein, Roxbury.
A. H. Hodgdon, Dedham.
F. C. Jillson, Jamaica Plain.
G. W. Kaan, Brookline.
Bradford Kent, Dorchester.
C. J. Kickham, Brookline.
J. S. H. Leard, West Roxbury.
Edward Martin, Roxbury.
J. S. May, Roxbury.
K. G. Percy, Brookline, C.

NORFOLK (*continued*),
E. T. Rollins, Jamaica Plain.
Victor Safford, Jamaica Plain.
C. F. Stack, Hyde Park.
D. F. Sughrue, Roxbury.
Eugene Thayer, Roxbury.
Lucia F. Vickery, Jamaica Plain.
H. F. R. Watts, Dorchester.
G. W. Winchester, Mattapan.

NORFOLK SOUTH,
C. A. Sullivan, South Braintree, V.P.
C. S. Adams, Wollaston.
O. H. Howe, Cohasset.
G. H. Ryder, Quincy, M.N.C.
G. M. Sheahan, Quincy.

PLYMOUTH,
F. H. Burnett, Brockton, V.P.
W. C. Keith, Brockton.
N. K. Noyes, Duxbury.
Gilman Osgood, Rockland.
F. J. Ripley, Brockton.
F. G. Wheatley, North Abington, M.N.C.

SUFFOLK,
J. S. Stone, Boston, V.P.
S. H. Ayer, Boston.
G. M. Balboni, Boston.
J. W. Bartol, Boston, President.
J. B. Blake, Boston.
Robert Bonney, East Boston.
J. T. Bottomley, Boston.
V. Y. Bowditch, Boston.
E. G. Brackett, Boston.
J. E. Briggs, Boston.
M. E. Champion, Boston.
David Cheever, Boston.
Loretta J. Cummins, Boston.
W. H. Devine, South Boston.
G. B. Fenwick, Chelsea.
Channing Frothingham, Boston.
J. E. Goldthwait, Boston.
G. S. Hill, Boston.
W. C. Howe, Boston.
J. C. Hubbard, Boston.
H. T. Hutchins, Boston.
Henry Jackson, Boston, C.
D. F. Jones, Boston.
E. A. Locke, Boston.
F. T. Lord, Boston.
F. B. Lund, Boston.
Donald Macomber, Boston.
G. B. Magrath, Boston.
R. H. Miller, Boston.
J. J. Minot, Boston.
T. J. O'Brien, Boston.
C. F. Painter, Boston.
E. H. Place, Boston.
Alexander Quackenboss, Boston.
Edward Reynolds, Boston.
W. H. Robey, Boston, M.N.C.
D. D. Scannell, Boston.
C. L. Scudder, Boston.
C. M. Smith, Boston.
E. W. Taylor, Boston, C.
Louisa P. Tingley, Boston.
F. H. Williams, Boston.

WORCESTER,
A. W. Marsh, Worcester, V.P.
F. H. Baker, Worcester.
W. P. Bowers, Clinton, Ex-P.
L. R. Bragg, Webster.
W. J. Delahanty, Worcester.
G. A. Dix, Worcester.
G. E. Emery, Worcester.
M. F. Fallon, Worcester.
Homer Gage, Worcester.
J. J. Goodwin, Clinton.
R. W. Greene, Worcester.
David Harrower, Worcester, M.N.C.
E. L. Hunt, Worcester.

WORCESTER (*continued*),
A. G. Hurd, Millbury.
L. C. Miller, Worcester.
C. B. Stevens, Worcester.
G. O. Ward, Worcester.
F. H. Washburn, Holden.
S. B. Woodward, Worcester, Ex-P.
WORCESTER NORTH,
F. M. McMurray, Fitchburg, V.P.
A. F. Lowell, Gardner,
H. R. Nye, Leominster.
E. A. Sawyer, Gardner, M.N.C.
D. S. Woodworth, Fitchburg.

ANNUAL MEETING OF THE COUNCIL.

The annual meeting of the Council will be held in the Maplewood Hotel, Pittsfield, Tuesday afternoon, June 12, 1923, at 4.30 o'clock.

Business:

1. Reports of Standing Committees in order of seniority.
2. Petitions for restoration to the privileges of fellowship.
3. Reports of Delegates.
4. Reports of Special Committees.
5. Report of Nominating Committee and balloting for officers and orator.
6. Nomination and election of Standing Commitees for ensuing year.
7. Incidental business.

WALTER L. BURRAGE, *Secretary.*

Brookline, June 5, 1923.

Councilors are reminded to sign one of the two attendance books before the meeting. Immediately after the meeting tea will be served in the hotel to all Fellows and their guests, including the Councilors.

Correspondence.

STAFF OF AESCULAPIUS VS. CADUCEUS.

Mr. Editor:

I see there is some agitation on foot looking towards the adoption of an emblem for the automobiles of physicians that shall be more distinctive than the somewhat discredited Green Cross. The caduceus, the emblem foisted upon the profession in recent years, has been suggested. May I, as Curator of the Storer Collection of Medical Medals at the Boston Medical Library, say a word in hearty commendation of the recent suggestion of Dr. Harold Bowditch that the physicians throughout the state adopt as their emblem the staff of Aesculapius, *i.e.*, the sprouting club, emblematic of Strength, entwined by a single serpent, that of Knowledge, with none of the wings that have reference solely to the nimble god Mercury, who has nothing whatever to do with medicine and never had anything, however much the medicine named after him may have. A study of the hundreds of medals in the collection that have the attributes of Aesculapius upon them show uniformly that the staff and not the caduceus is the proper emblem, except in a very few cases where the zeal of the artist was greater than his archeological knowledge. It is indeed unfortunate that the somewhat precipitate action of a few years ago has so identified the caduceus with medicine that, as Dr. Bowditch points out, we have appropriated the emblem of the god of thieves. They do some things better in England—the collar insignia in the British Army Medical Service is the staff and not the miserable caduceus.

Very truly,
MALCOLM STORER.

Boston, May 23, 1923.

THE CADUCEUS AND THE GREEN CROSS.

Mr. Editor:

In regard to the Caduceus and Green Cross, it would seem that the Green Cross is best known in New England. Not one person in a hundred, including police officers, know what the Caduceus signifies.

It is highly important that the regular physicians and surgeons of this State have a distinct emblem for their cars.

The Chicago police issue a special emblem for doctors' cars and they are given the right of way. I am informed that this is done also in Pennsylvania and other states. In some cases I believe the Caduceus is used.

Quacks and others, not regular physicians, are using the Green Cross, as we all know. Why not keep the cross by getting it copyrighted, or by having a law passed at the next session of the Legislature, making it legal for regular medical graduates? A fine of $200 or a jail sentence might be imposed. In this way we can deprive those who have appropriated it as a means of speeding, etc. People know what the cross means, and it is not too conspicuous. If we can legalize its use it will not only help us but assist the police also.

FRANK E. ROWE, M.D.

A NEW EMBLEM.

Mr. Editor:

The article in the May 24th JOURNAL regarding the Caduceus and Green Cross is one which, no doubt, needs to be given serious consideration. I am writing under this date to the *Journal of the American Medical Association* suggesting that the emblem for the use of automobiles be made up of a combination of the one now sold by the A. M. A. and the green cross on a white background. I am going to submit to them in a few days a drawing of an emblem of this kind.

By having this emblem registered and sold by the A. M. A. to none other than registered physicians, the disastrous use of the article procurable at any supply store by anyone would be eliminated. It would also be of such a nature as to enable the distinguishing of a physician's car quickly and easily at a distance as well as near by.

I should be pleased to learn your opinion of this suggestion.

GEORGE EDWARD PERKINS.

A PROPOSED SCHEME FOR THE EDUCATION OF NURSES.

New Haven Hospital,
New Haven, Conn.

Mr. Editor:

Your recent inquiry addressed to the Department of Nursing of Yale University has been sent to me and at the moment very few of the details of organization are worked out. The new school is to be organized with its own dean, faculty, budget and buildings. The major part of the training will continue to be in the hospital and in bed-side experience for it would be obviously unwise and unreasonable to depart far from the practical bed-side experience. It is hoped, however, to conduct this training on an educational plan, included in which will be a certain amount of experience in the community phases and problems of nursing as a part of the basic course.

It is hoped that by concentrating on the educational features of the training and by eliminating many of the unnecessary duties of ward and hospital service it may be possible to shorten the course considerably. There will be a number of practical adjustments in the situation, but we feel pretty confident that a larger group of better trained nurses can be trained

in a shorter time than under the present system, and it will be interesting to see if this opinion is borne out by practical experience.

Just as soon as more actual details of the program are worked out I shall be glad indeed to send them to you.

W. C. RAPPLEYE,
Superintendent.

TWO AUTOMOBILE ROUTES TO PITTSFIELD.

BOSTON TO PITTSFIELD VIA WORCESTER AND SPRINGFIELD, OVER JACOB'S LADDER TO PITTSFIELD.

Miles.		Miles.	
0.0	Boston — Boylston and Dartmouth Streets. Start at Copley Square — Go north on Dartmouth Street for two blocks	34.9	Westboro
		41.3	Shrewsbury
		47.1	Worcester
		52.1	Cherry Valley
		53.5	Leicester
		58.8	Spencer
		65.4	Brookfield
0.2	Commonwealth Avenue, left (double drive)	68.5	West Brookfield
		71.8	Warren
		74.3	West Warren
2.8	Left with trolley —Left-hand street — Commonwealth Avenue	83.7	Palmer
		88.9	North Wilbraham
		98.9	Springfield
		101.3	West Springfield
4.4	Brookline	108.7	Westfield
6.5	Newton Center	114.6	Woronoco
10.5	Auburndale	117.2	Russell
13.2	Wellesley Hills	121.2	Huntington
14.7	Wellesley	128.3	Chester
17.8	Natick	132.7	Bonnyrigg Corner
21.4	Framingham	143.9	East Lee
23.3	Framingham Center	145.8	Lee
		150.3	Lenox
28.6	Southboro	157	Pittsfield

BOSTON TO PITTSFIELD VIA FITCHBURG AND GREENFIELD, OVER MOHAWK TRAIL TO NORTH ADAMS, THENCE TO PITTSFIELD.

Miles.		Miles.	
0.0	Boston — Junction Boylston and Dartmouth Streets — Library. Go northerly on Dartmouth Street; Commonwealth Avenue (double drive), left; Massachusetts Avenue, right at trolley crossing; Charles River	27.7	Littleton Common
		28.4	Littleton
		34.2	Ayer
		42.8	Lunenburg
		47.5	Fitchburg
		50.3	Crockerville
		54.3	Westminster
		60.1	Gardner
		63.8	Otter River
		65	Baldwinsville
		73.9	Athol Center
		75	Athol
2.1	Cambridge	79.9	Orange
4.1	Subway Station— 4 Corners, go right	85	Erving
		91.5	Millers Falls
4.2	Fork left	99.1	Greenfield
6.7	Arlington	106	Shelburne
8.4	Arlington Heights	109.9	Shelburne Falls
10.5	Lexington	118	Charlemont
12.2	4 Corners, bear right	129.7	Whitcomb Summit
		137.1	North Adams
17.8	Fork right	143.2	Adams
18	Concord	148.3	Cheshire
20.5	Concord Junction	152.6	Berkshire
24.5	North Acton	159.1	Pittsfield

Going one way and returning the other will give opportunity to view some of the most attractive regions in the state.

RADIO MEDICAL SERVICE FOR SEAMEN.

Just a year ago the U. S. Public Health Service announced that it had completed arrangements to expand the medical aid service to American seamen, with which it had first been charged by Congress a century and a quarter ago, by prescribing by radio for any sailor who might be taken ill at sea and who might apply. Messages for aid were to be forwarded to the Service by the ship's radio via the Radio Corporation of America or the Independent Wireless Telegraph Company.

The range of diseases and mishaps for which aid has been invoked during the first year has been amazing. The list includes appendicitis, asthma, cramps, diarrhea, ear ache, eye injuries, heart disease, hernia, hiccoughs, influenza, infected teeth, malaria, opium poisoning, ptomaine poisoning, and swallowing broken glass. Many of the diagnoses were made on board ship because sailors are resourceful in meeting emergencies. Sometimes interchange of several messages was necessary to obtain clear information as to the cause of the trouble. Cramps among the crew and later more cramps and worse cramps elicited the information that all the sick ate at a single mess. This known, treatment of the sick and means of preventing further cases were definitely outlined.—United States Public Health Service.

In the United States, well-vaccinated communities show low smallpox rates—Maryland with one-tenth case per thousand population, New York with one-fortieth per thousand, and the District of Columbia with 0.14 per thousand. Poorly vaccinated states tell another story: Oregon with 1.45, Washington with 1.72, and Kansas with 2.0 per thousand population.

Some communities wait till an epidemic breaks out and then rush to vaccinate. These stop the disease—after it has caused many deaths and has "branded" many survivors. Sixteen months ago, in Kansas City, an epidemic of smallpox began, yielding 350 cases and 123 deaths; and a few months later another started in Denver and yielded 950 cases and 288 deaths. Such epidemics always end the opposition to vaccination in the community—for a time.

SOCIETY MEETINGS.

The annual meeting of the Massachusetts Medical Society will be held in Pittsfield, June 12 and 13.

STATE, INTERSTATE AND NATIONAL SOCIETIES.

June, 1923:—Annual Meeting of the Association of Women in Public Health will be held in Boston, June 18.

June, 1923:—The Nineteenth Annual Meeting of the National Tuberculosis Association will be held in 1923 in Santa Barbara, Calif., from June 20 to 23, inclusive, in the Recreation Center.

June, 1923:—American Medical Association, San Francisco, June 25-29, 1923; Olin West, Chicago, Ill., Secretary.

July, 1923:—Massachusetts Association of Boards of Health, July 26, Nantasket; W. H. Allen, Mansfield, Mass., Secretary.

October, 1923:—Boston Health Show will be held in Boston, October 6-13, inclusive.

October, 1923:—Meeting of the American Health Association will be held in Boston, October 8-13, inclusive.

For list of Officers of the Massachusetts Medical Society, see page xviii of the Advertising Section.